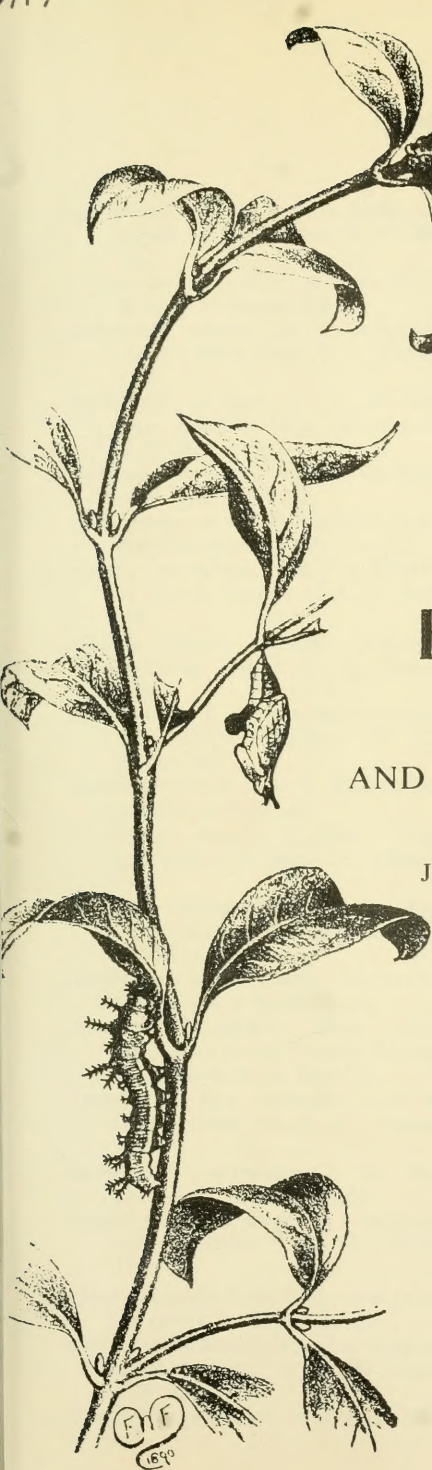






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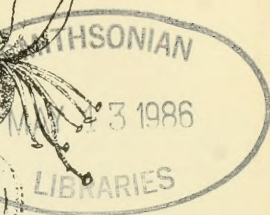


The Entomologist's Record

AND JOURNAL OF VARIATION

EDITED BY
J. M. CHALMERS-HUNT, F.R.E.S.
AND
P. A. SOKOLOFF, F.R.E.S.

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with the assistance of

A. A. ALLEN, B.SC., A.R.C.S.

P. J. CHANDLER, B.SC., F.R.E.S.

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shown the occasional rather extreme whitening of the above spots which has
*“Blencathra”, Cambridge Avenue, St. Michael’s Estate, Cape Town.

PLATE I



1



2



3



4



5



6

Photo: C.G.C.D.

Lepidochrysops pringlei Dickson, neallotype . Fig. 1 (upperside), Fig. 2 (underside), *Lepidochrysops balli* sp. nov., allotype ♀ . Fig. 3 (upperside), Fig. 4 (underside), *Colias electo* L. f. *elysium* ab. nov. Fig. 5 (upperside), Fig. 6 (underside). All figures natural size. (Colour reproduction by Unifoto (Pty). Ltd. (Glen Tarn)) NOTE: For figures of the *Holotrichia* and *Lepidochrysops balli* see *Ent. Rec.* 95 (1-3).

A NEW *LEPIDOCHRYSOPS* HEDICKE
(LEP.: LYCAENIDAE) FROM THE SOUTH
WESTERN CAPE PROVINCE

By C. G. C. DICKSON, M.Sc*

No. 60

This interesting blue *Lepidochrysops* was discovered by Dr. Jonathan B. Ball on the Kammanassie Mountains in the easterly portion of the South Western Cape Province, on 3rd February, 1979. Later specimens were found on the same mountains by Mr. V. L. Pringle on 12th December, 1981. Up to that time males only had been secured. It was not until 14th November, 1982, that Messrs. V. L. and E. L. Pringle found a female, as well as further males, on these mountains. The butterfly is most closely related to *Lepidochrysops braueri* Dickson (*Entomologist's Rec. J. Var.* 78 (9): 189-192, Pl. IX (1966)) and in the description which follows comparisons are made with this species.

Lepidochrysops balli spec. nov.

This insect is of moderate size for its genus, and of about the same size as *L. braueri*. The forewings of the male are a little, if noticeably, more "blunt" than in the latter taxon.

Male. (Upperside).

Ground-colour of all wings violaceous-blue and without the silvery tone which is characteristic of *L. braueri*. From specimens available for comparison, the broad, dark marginal bands are, on an average, slightly wider in *balli* than in *braueri*. From about two-thirds upwards, the marginal band becomes comparatively sharply curved along its inner edge, in the hindwing, owing to the band conforming roughly with the wing-outline, which in *balli* is different from that of *braueri* through the upper angle of the wing being more prominent; whereas in *braueri* the curvature at this point is much more even, influencing that of the band itself. The light bluish "surround" to the black spot near the margin in area 2, and the other submarginal "rings" or partly lunula markings are, in general, rather less prominent in *balli* than in *braueri*; while the more proximal portion of the inner-marginal concavity is not nearly as noticeably lightened in the former taxon. The light submarginal marking, of modified shape, in area 7 is, in *balli*, less distinct or may often be barely apparent.

Underside.

As a whole close to that of *braueri*, with the most divergent characters being, sometimes, individually very close, or similar, to each other in specimens of either taxon. When the combined features have, however, been taken into account no examples of either taxon have been found to agree fully with one another on the underside. Characters which predominate in *balli* in comparison with the corresponding ones in *braueri* are noted hereunder.

In *balli* there is normally a more pronounced double (opposed) curvature of the transverse series of markings in the forewing and the sub-marginal white "rings" are less round in form, and generally narrower than in *braueri*. In the specimens examined, none (with an exception which is noted later) have shown the occasional rather extreme widening of the above spots which has *"Blencathra", Cambridge Avenue, St. Michael's Estate, Cape Town.

been present in *braueri*. In the hindwing the white sagittate markings forming a transverse series are, in *balli*, normally more clear-cut and sharper than in *braueri*, in which these markings quite often coalesce noticeably and produce a blurred effect.

Length of forewing: 16.5-17.5 mm. (the latter measurement, in holotype). An abnormally small specimen has a wing-measurement of only 14.5 mm.

Female.

As in the case of so many *Lepidochrysops* species the forewings are rather more rounded than are those of the male. There is much encroachment of black or blackish marking into the violaceous-blue areas of the upperside, and the latter are less strongly violaceous than in the male.

Upperside.

In the forewing a very broad costal border which becomes increasingly broad distally is confluent with the broad distal border, with the black marking extending down to vein 4 before the juncture with the distal border. The discocellular marking is much widened, being roughly quadrate, and is confluent with the costal border. The lowest component of a post-median series of three black markings, within the violaceous-blue area, occurs in area 1b and is decidedly elongated; that in 2 is smaller and approximately oval; and the one in 3 is smaller still and more round in form. The inner-marginal area below vein 1a is partly dark-scaled, solidly so near the wing-base and for a fair distance before the distal margin. There is a very fine white edging to the costal margin.

In the hindwing a very broad costal border extends down to vein 6 and is confluent with the distal border, which is even wider than in the male and with the pale blue to whitish rings therein larger and more prominent than in the male — and the black spot enclosed by the ring, in area 2, very conspicuous. The dark discocellular marking is well developed and is distinctly lunular in form. An irregularly elongated dark streak extends distad from the discocellular marking and about half-way through the adjacent violaceous-blue field, the outer portion of the streak representing one of the spots of the (incomplete) discal series. The lowest marking of the series is discernible (in the right-hand wing mainly, in the allotype) in area 1c and the uppermost one, which coalesces with the dark costal border, is apparent in area 5. Dark scaling which occurs over the veins is, in all wings, heavier than in the male.

Underside.

All wings as in the male.

Length of forewing: 17.25 mm. (allotype only).

The body and ancillary parts, in both sexes, closely resemble those of *braueri*. With respect to the head, the numerous densely-set hairs on the frons are predominantly black (sometimes almost entirely black) in *balli*; but, in all specimens of *braueri* which have been examined, a high proportion of the hairs have been light-coloured, although bordered at least partially, on each side, by black hairs.

It may be noted that in the case of certain other closely related *Lepidochrysops* species there is not necessarily a consistently marked difference in the underside characters. In a few allied species the undersides are almost identical.

♂ Holotype, SOUTH WESTERN CAPE PROVINCE: Kammanassie Mountains (at approx. 4,900 ft. above sea-level), 3.II.1979 (Dr. J. B. Ball). Dr. Ball has wished to present the male holotype to the Transvaal Museum.

♀ Allotype, S. W. CAPE PROVINCE: Kammanassie Mountains, 14.XI.1982 (E. L. Pringle); British Museum Reg. No. Rh. 18709

Paratype in author's collection : data as for holotype, one ♂.

Paratypes in Coll. Dr. J. B. Ball: as holotype, three ♂♂.

Paratype in Coll. British Museum (Nat. Hist.) : as holotype, one ♂; British Museum Reg. No. Rh. 18710.

Paratypes in Coll. V. L. and E. L. Pringle : data as for holotype, 12.XII.1981, three ♂♂ (V. L. Pringle); 14.XI.1982, one ♂ (E. L. Pringle).

In one male paratype, collected by Dr. Ball, the dark white-edged spots of the main transverse series on the forewing underside are, mostly, unusually elongated and nearly all the corresponding markings of the same series on the hindwing underside are also noticeably elongated, as is the dark spot in the cell. (This phenomenon does occur at times in many of the species of *Lepidochrysops*.)

One of the male paratypes which was caught by Mr. E. L. Pringle, on 14th November, 1982, was a very aberrant specimen. The forewing upperside black or blackish border averages as much as a full 3.25 mm. in width. The discocellular marking of the same wing is much larger than normal and there is a postmedian series of black markings of an elongated form in areas 1b - 5, with coalescence with the distal border in area 1b. In the hindwing the black discocellular marking is broadened, though considerably less so than in the forewing; and elongated marking, less prominent on the whole than in the forewing, occurs midway across the wing in areas 1c - 5, with that in 1c and 2 far less distinct than that in the other areas concerned. On the underside, part of the dark discal marking tends, perhaps, to be slightly more elongated than in the average specimen.

As regards the male genitalia, the *aedeagus* and the *valves* of one paratype were compared with those of a single example of *L. braueri* from the type-locality — the one of which these organs were figured, with the original description (*op. cit.*). The butterflies themselves were of virtually the same size, but both the *aedeagus* and the *valves* were distinctly smaller, in the case of *balli*. The *aedeagus* of *balli* had its main proximal portion of approximately twice the length of the distal portion, and as in *braueri* as regards these proportions themselves. In the case of the former species the dorsal margin of the lateral plates was markedly concave (with a downward dip) for a considerable distance before the small "step" preceding the rather acute extremity — as against an almost straight fall, dorsally, to the same point in *braueri*. (There was some slight pressure in the original mount.)

The proximal portion of the *aedeagus* was, in *balli*, relatively straight, and thickest at about one-third of the distance from its base; while the same portion in *braueri* was decidedly arched, and noticeably reduced in diameter for approximately half the distance from the base. The "lateral flanges" (using Cottrell's term) at the basal end of the *aedeagus* appeared to be very similar in each of the species concerned. It may be stated that the concavity, dorsally, in the lateral plates of the *aedeagus* of *balli* occurred less abruptly than in the case of *Lep. pringlei* Dickson (*Entomologist's Rec. J. Var.* 94, Nos. 11-12: 222-224 (1982)); and other differences, too, were present in the actual material compared.

In the *valve* of *balli* there was a small but definite decrease in width in a distal direction (the reverse occurring in the valve of *braueri* which was figured) and, to use Cottrell's term, a well-defined "callous" just before the hooked extremity (not present in the valve of *braueri*). It must, however, be noted

that inconsistencies do occur in the valves of many of the *Lepidochrysops* species, individually, and that the above differences in the valves of the taxa in question might be found not to be constant in character. Although it is realised that some of the other components of the male genitalia, not considered herein, may be of taxonomic value in certain species of *Lepidochrysops*, special attention has been drawn above to the *aedeagi* and the lateral plates in particular because of useful characters perhaps more frequently, being found therein.

Dr. Ball has commented on the species as follows:—

“This is a very restless and energetic Lycaenid which I have found very infrequently on numerous trips to the Kammanassie Mountain range.”

“It has been seen by myself only within approximately 1,500 ft. of the summits of the range. No females were observed and the very steep mountainsides combined with thick vegetation make capture of the insect very difficult.” (Specimens, including a female, were nevertheless found subsequently, by Messrs. V. L. and E. L. Pringle, at a height of about 4,000 ft. and thus further below the summit of these mountains (altitude about 6,540 feet above sea-level)).

Very grateful thanks are due to Mr. E. L. Pringle for his most generous presentation of the only female specimen known to date.

Finally, it should be stated that Professor C. B. Cottrell was apparently the first one to try the Kammanassie Mountains for butterflies, in December, 1969. Others who have followed in his steps have continued to increase our knowledge of the species of this remarkably productive range.

Description of the female of *Lepidochrysops pringlei* Dickson:
A final note.

When the male of this species was described by the present writer (*Entomologist's Rec. J. Var.* **94** (11-12) : 222-224 (1982) ; **95** (1-2):Pl. I, figs. 1,7 (1983)) the description of the female was left in abeyance until this sex became available. The situation was remedied when Mr. E. L. Pringle caught two females in the type-locality in November, 1982, both of them unfortunately imperfect but one in sufficiently good condition to serve satisfactorily as the neallotype female of this species. The description follows hereunder.

Lepidochrysops pringlei female.

Upperside.

The ground-colour of all wings is of a very rich, shiny violaceous-blue, of a decidedly more violaceous tone than in the male, but with this colouring restricted by the very broad distal and costal black borders. The general pattern is similar to that of females of *L. oreas oreas* Tite, 1964, which can vary in detail in individual specimens, particularly with respect to the degree of development of the black discal spotting of the forewing — this being rather small, in fact, in the representative of the present taxon. In this specimen, the black distal borders, especially in the hindwing, are broader than in many if not all examples of *oreas oreas*; while the postmedian sagittate marking, of a lighter violaceous-blue than the ground-colour, is particularly clear. The ground-colour itself is richer in tone than is usual in females of *oreas oreas*.

Underside.

All characters are much as in the male of *L. pringlei*. In the forewing the dark discal series is more remote from the following white, pointed marking than in *oreas oreas*, and in the hindwing the submarginal annular marking in areas 1c - 5 is more pointed proximally than in *oreas oreas* (the component of this series in area 1b, in *oreas oreas* itself, is however well pointed). If not specially mentioned in the original description, the above two characters apply pretty well to the male, also, of *L. pringlei*.

Length of forewing: 18.5 mm. (one specimen only).

Neallotype female, SOUTH WESTERN CAPE PROVINCE: Toverwater, 13.XI.1982 (E. L. Pringle).

A comparison with the nominate race, itself, of *L. oreas* has been considered sufficient for the present purpose.

The writer is exceedingly grateful to Mr. E. L. Pringle for the very kind gift of the hard-won female specimen of the present species.

Both sexes were encountered at a height of 4,860 ft. above sea-level, which is the altitude of the eastern extremity of the Groot Zwartbergen in this area.

Just before this paper was submitted for publication, Mr. E. L. Pringle informed the writer that he had caught more specimens of *Lepidochrysops balli* on the Kammanassie Mountains and that several of the males resembled *L. braueri* in the tone of the blue of the upperside. Some further investigation would seem desirable to endeavour to assess the significance of this fresh observation. It is known that occasional males of the two races of *L. oreas* do exhibit a lighter and more silvery-blue colouring than that of the normal, violaceous-blue, males of these taxa.

CYPHON HILARIS NYHOLM (COL., SCIRTIDAE) NEW TO SURREY.

— This scirtid was added to the British List formally by the late D. K. Kevan in 1963 (*Entomologist's mon. Mag.*, 98 (1962): 114-121) who pointed out that Nyholm had been aware of its presence in this country back in 1955. My only specimen was swept from heather at Horsell Common (TQ0060) on 29.viii.82 in one of the more boggy spots of the heath. At the time I was unsure of its identity but have since checked it with material at the British Museum, wherein I discovered two more from Surrey — one from Esher 18.vi.1865 and another from Wimbledon, 6.vii.1867 (both J. A. Power). Kevan (*loc. cit.*) gives only two southern localities, namely the New Forest and Charmouth.

I should like to point out that it is advisable to heed his cautionary note on the variability of the 'slightly sinuate hind margin of the thorax behind the posterior angles' on p.120 when using the provided key to distinguish this species from the closely allied *ochraceus* Stephens. My thanks go to the staff of the Coleoptera section, BM(NH) for facilities afforded. — D. A. PRANCE, 23 Brunswick Road, Kingston Hill, Kingston upon Thames, Surrey.

A NEW FORM OF THE COMMON PIERID
BUTTERFLY *COLIAS ELECTO ELECTO* (L.)

By D. M. KROON, MB., Ch.B.*

Colias electo electo, ♂ form *elysium* ab. nov.

This striking, beautiful colour variant of what is essentially a widespread and common butterfly, was collected along the banks of the Vaal River, near Sasolburg, during a major emergence of the nominate butterfly. This emergence had been preceded by a severe and prolonged drought. Another aberration, *erema* Vari, 1976, also a male, resembles this butterfly up to a point, but is virtually a plain melanic. The main feature of the present insect is a broad violaceous coloration extending outwards from the base of the upperside of both wings for about two-thirds of the wings' expanse. The outer-third is a fuscous-brown. The bright sulphurous androconial patches on the upperside of the hindwings contrast strongly with the abnormal coloration of the specimen. The underside also differs in appearance from that of normal specimens. The main portion of the forewings is fuscous coloured, from the bases; and there is a narrow costal border of dull yellow, and a broad apical and subapical area of the same colour, which also constitutes the entire ground-colour of the underside of the hindwings. Length of forewing: 21mm. The butterfly will be presented to the Transvaal Museum.

Holotype: Vaal River, Sasolburg, O.F.S., South Africa, 9.10.83. D. M. Kroon (Transvaal Museum Reg. No. 1072).

I would like to acknowledge with gratitude the kindness shown by Mr. C. G. Dickson, who generously insisted that this specimen be figured on a coloured plate together with other material he has dealt with (see Plate I, figs. 5, 6).

*P.O. Box 572, Sasolburg, O. F. S., South Africa 9870.

SYNANTHEDON ANTHRACINIFORMIS ESP.: ORANGE-TAILED CLEARWING IN BEDFORDSHIRE. — In June 1984, I successfully reared three specimens of *S. anthraciniformis* from sections of the Wayfaring Tree gathered in South Bedfordshire during the previous winter. Four large parasitic wasps, which are yet to be identified were also reared. These clearwings are apparently the first authenticated Bedfordshire specimens for nearly 80 years. — K. F. WEBB, 2 Kingsdown Avenue, Luton, Beds LU2 7BU.

CORRECTION. — In my review of Cleevely's *World Palaeontological Collections* (*Ent. Rec.*, **96**: 292, line 28), for "... relates to fossil insects," read: "... relates to collections of fossil insects." — J.M.C.-H.

MYTHIMNA LOREYI DUPONCHEL :
THE COSMOPOLITAN (LEP.: NOCTUIDAE)
IN DERBYSHIRE AND A BRIEF ACCOUNT OF
ITS BREEDING IN CAPTIVITY

By JOHN CULPIN*

A single female specimen of this relatively rare migrant was taken by me in my garden m.v. trap at Glapwell, North-east Derbyshire, on the night of 9th/10th September 1983. Of the twenty other species of moth in the trap that night, the only one of note was a single *Plusia festucae* L.

Next day I enlisted the help of Mr. Brian Elliott, and we fed the moth on honey and water and transferred her to a small plastic box covered with netting and containing dry cocksfoot heads. On the 14th September, some shiny secretion sealing the cut end of a cocksfoot head was accidentally noticed, and on splitting the end of this stem, a long row of eggs was revealed, reaching 12 mm. down into the hollow stem. After this discovery, more small, dry, hollow grass stems were introduced and these were again utilised by the moth as laying sites. The egg is pale green, and owing presumably to the pressure exerted within the hollow stem during oviposition, a number of these were flattened and misshapen as was noted in Bretherton et al. (1979). The eggs were kept at 70°F and the first larvae appeared on 20th September.

The dull, light brown larvae fed on a variety of grasses, and accepted all species offered. They were voracious feeders and extremely photophobic, and by the 5th October were already half grown. Full growth and preparation for pupation began on 16th October. The larva has been well described (Haggett, 1980).

The first moth emerged on 4th November 1983, and in all some 200 insects were bred. A single pairing was obtained by Mr. Brian Statham, but the resulting eggs were infertile.

Final instar larvae were photographed by the author and Mr. Jim Porter. The original female — somewhat worse for wear — was exhibited at the Annual Exhibition of the British Entomological and Natural History Society in October 1983, and a bred series at the Annual Exhibition of the Derbyshire Entomological Society in November that year. After having first had the apex of the left forewing clipped, surplus adults were released.

My thanks are due to Messrs. B. Statham, J. Porter and B. Elliott for their help, and especially to the latter for his assistance in the preparation of this account.

*26 Back Lane, Glapwell, Chesterfield, Derbyshire.

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CHOROSOMA SCHILLINGI (SCHUMMEL) (HEM.: RHOPALIDAE) IN WEST CUMBRIA. — I took one specimen of this unusual looking bug by sweeping along the edge of a large stand of Rosebay Willowherb in a dune slack on the Eskmeals Dunes Nature Reserve, (SD08.94), Cumbria, on 4th August, 1984. Despite further sweeping and searching in the immediate area this was the only specimen found.

According to Southwood & Leston (1959, *Land and water bugs of the British Isles*, London) *C. schillingi* is restricted mainly to coastal sand-dunes, and has been recorded from Norfolk, Pembroke and Anglesey, but apart from this it seems to be almost unknown from the north of Britain.

This would appear to be the first record of the bug from West Cumbria and it establishes a new record of vice county 70, Cumberland. There is no local material of *C. schillingi* among the five specimens in the F. H. Day collection of Heteroptera held in the Tullie House Museum in Carlisle, and the individuals are from Anglesey and Great Yarmouth, but two are from Deal, and were collected by E. C. Bedwell and bear the date 22.ix.23.

In an interesting note Mr. Peter Kirby, (*Entomologist's mon. Mag.*, **120** : 177) records the species from two inland sites in England, Canterbury, Kent and Rauceby Warren in Lincolnshire; and this latter record extends the northern range of the species on the eastern side of Britain.

Among some other interesting and local species of Heteroptera which I collected on the reserve during the summer of 1984 were, *Nedes tipularius* (L.), *Gampsocoris punctipes* and *Agramma laeta*, all by sweeping in the dune slacks, and *Heterotoma merioptera* occurred in small numbers on Bittersweet growing near to some Sea Buckthorn bushes.

I acknowledge the kind permission of the Cumbria Trust for Nature Conservation for allowing me to collect on the Eskmeals Reserve, and I also wish to thank Mr. David Clarke, curator of the Tullie House Museum for kindly allowing me to examine the F. H. Day collection. — R. W. J. READ, 43 Holly Terrace, Hensingham, Whitehaven, Cumbria, CA28 8RF.

THE WATCHMAKER'S EYEGLASS

By CHARLES F. COWAN*

In olden days watchmakers often plied their skills seated in small shop windows, advertising their craft to passers-by. They always wore a black eyeglass in one eye, causing me, as a very small boy, endless fascination. As a slightly larger lad with a normally inquisitive mind, I had accumulated several watches which had successively "died". Convinced that I needed an eyeglass, I summoned up courage one day and asked how to obtain one. The man turned slowly round, dropped his optic, and gave me to understand that they were not for small boys but, as we would now say, were available to the trade only. Abashed, I suppressed but did not abandon my ambition.

My first Army posting was to Bangalore in South India, where I arrived on 3.iii.33. Within a year I had found that eyeglasses were easily obtained there, and quite cheap, so I had one at last. Having by now resumed my main hobby, collecting butterflies, for which I had been using a normal pocket lens, I quickly found that my new toy was much more handy. Thus, when I moved to Singapore on 16.viii.36, I used it exclusively, to the considerable amusement of colleagues.

Returning to England in early 1939, I had the good fortune to be introduced to the British Museum (Natural History), where I met, among other former correspondents, Brigadier W. H. Evans. He alone evinced any interest in my eyeglass. I lent it to him and he returned it a few days later having bought his own, which he thereafter used continually.

My next visit to the B.M.(N.H.) was in 1947, when I was intrigued to see several watchmakers' eyeglasses in use by entomologists, and I have since noted them in other departments. They are now quite readily available from opticians.

I have recently found another use for them. Four years ago I had a cataract operation on my right eye, requiring the wearing of a "hard" contact lens which has to be removed for washing and soaking overnight. Then my left eye deteriorated and that also has had to be operated on. So for the past 2 years I have had the nightly problem of handling this minute lens while almost sightless. From my collection of eyeglasses varying in power from x3 to x6, the lowest powered proves an ideal solution. Immediately on removal of my contact lens I substitute the eyeglass for the critical three or four minutes while I wash it and put it away. Then I grope my way to bed, with a pocket lens handy in case I wish to see the time.

*4 Thornfield Terrace, Grange-over-Sands, Cumbria, LA11 7DR.

BUTTERFLIES FROM THE GREEK ISLAND OF ANDROS, END JUNE, 1983.

JOHN G. COUTSIS*

The island of Andros is situated in the Aegean sea, at approximately 38° of latitude north and is the northernmost of the Cyclades islands. It is located between the island of Evvia and the island of Tinos. The former lies to its north-west and is separated from it by a distance of about six nautical miles, while the latter lies to its south-east and is separated from it by a distance of about .6 nautical miles. Evvia is a large land mass and its closest distance from the mainland is less than 100 metres, a fact that rather diminishes its insular properties. Tinos, on the other hand, is typical of most Cycladic islands, being arid, well separated from the mainland and possessing a relatively small land mass.

The area of Andros is about 390 square kilometres, its length 39.5 kms and its greatest width 16 kms.

The island is generally hilly and mountainous (highest peak 1003m). The hills and mountains are separated by well watered gulleys and valleys.

The vegetation consists mainly of garrigue, tending toward maquis in well watered situations. In higher places, where the water is more extensive, there still exist what appear to be remnants of Mediterranean mixed deciduous forest, which at present is much admixed with maquis and cultivations. The watered valleys are characterized by rather extensive cultivations (Orchards, olive groves, vineyards, cereals, etc).

During a good part of the warm season the island is severely affected by strong north-east winds, known as "meltemia", and these, no doubt, play an important part in the island's faunal composition.

Collecting on Andros took place between 26th and 29th June 1983 and the following sites were visited:—

1. Fellos. This locality, situated in the north-west of Andros, is characterized by a narrow and fairly well watered valley, flanked by rather dry hills with garrigue. The valley itself has olive trees, carobs, fig trees, chaste trees, oleanders and vineyards.

2. Valley near town of Gavrión. This locality is extensively cultivated, primarily with cereals, and is situated a few kms south-east from Fellos.

3. Coastal area near village of Varidhi. This locality, in north-east Andros, consists of a well watered gully, surrounded by dry hills. The bottom of the gully has plane trees, oleanders and a great profusion of chaste trees. The surrounding hills are mainly covered with garrigue.

*4 Glykonos Street, Athens, 10675, Greece.

4. Near village of Katakilos. This is a hilly place with olive trees, vineyards, carobs and occasional plane trees, oleanders and chaste trees near water courses. The locality is situated in the centre of the island.

5. Arni. This is a well watered locality situated at between 600 and 750m., on the western side of Mt. Petalo, at the very centre of Andros. Here are to be found dense clusters of plane trees, at least two species of oak, chestnut trees, arbutus trees and great concentrations of ferns. A most uncharacteristic biotope for a Cycladic island.

A list of recorded butterfly species follows.

Papilionidae

1. *Papilio machaon* Linnaeus. A few observed near Gavrion, one captured near Katakilos.

2. *Iphiclidides podalirius* Linnaeus. A few observed near Gavrion.

Pieridae

3. *Pieris brassicae* Linnaeus. A few recorded at Fellos and near Gavrion.

4. *Pontia daplidice* Linnaeus. One captured at Fellos and a fair number observed near Gavrion and at Arni.

5. *Gonepteryx cleopatra* Linnaeus. Several captured at Arni, near Katakilos and near Varidhi. All females recorded of the whitish upperside morph.

6. *Leptidea sinapis* Linnaeus. A single fresh male captured at Arni. No others observed.

Nymphalidae

7. *Vanessa cardui* Linnaeus. Generally recorded, but not numerous.

8. *Argynnis paphia* Linnaeus. Common at Arni. A number of males captured, mostly worn. This butterfly seems well established there, but its discovery was rather unexpected, as it is a denizen of lush situations. In Arni it probably represents an isolated population that somehow found its way there either from the mainland, or from the island of Evvia.

Satyridae

9. *Hipparchia aristaeus* Bonelli. Confirmed by the genitalia. Captured at Arni, near Katakilos and near Varidhi. Mostly taking to the shaded trunks of plane trees and olive trees.

10. *Maniola jurtina* Linnaeus. A few recorded at Fellos, many captured at Arni, under the shade of plane trees. Confirmed by genitalia.

11. *Lasionmata megera* Linnaeus. Generally distributed, but nowhere numerous.

12. *Pararge aegeria* Linnaeus. A fair number captured at Arni in moist situations.

Lycaenidae

13. *Lycaena phlaeas* Linnaeus. Generally distributed and common. Very numerous at Arni.

14. *Polyommatus icarus* Rottemburg. A fair number captured at Fellos, always associated with a species of vetch.

Hesperiidae

15. *Carcharodus alceae* Esper. A small number captured at Arni and at Fellos.

16. *Carcharodus orientalis* Reverdin. A small number of males captured at Fellos. Confirmed by the genitalia.

17. *Thymelicus acteon* Rottemburg. Generally distributed and not uncommon.

Of all the species recorded, undoubtedly the most remarkable one is *Argynnis paphia*, a butterfly which somehow managed to establish itself and survive on Andros. I don't believe this species has ever been reported from any of the other Cycladic islands.

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LITHOSIA QUADRA L.: FOUR-SPOTTED FOOTMAN AND EILEMA COMPLANATA L.: SCARCE FOOTMAN, IN SOUTH WESTMORLAND (VC 69) IN 1984. — Fifteen *Lithosia quadra* in four nights: July 28-29th (three), 29-30th (two), July 31st-Aug. 1st. (nine), Aug. 1st.-2nd (one), appears to be the biggest migration of this species, so far north, as recorded on the distribution map in Heath, *Moths & butterflies of Gt. Britain & Ireland*. All were males in immaculate condition, and only two entered the M.V. trap which I operate every night, close to the white walls of my house, which act as a sheet. During this short period, 221 *Eilema lurideola* were counted, the normal average here. In the early hours of Aug. 2nd. before switching the M.V. light off, with a minimum night temperature of 13c. and rain falling, the walls were plastered with moths, and among them were numerous Footmen, one with folded wings, which I instantly recognised as a species I have been on the lookout for, during the seventeen years here, *Eilema complana* or perhaps *E. sericea* Gregson. Comparing it with my *complanata* specimens taken in Hampshire, it was identical in every detail with these. This species has been recorded before in V.C. 69, but is at about its northern limit. — J. BRIGGS, 5 Deepdale Close, Beetham, Cumbria LA7 7AY.

REMINISCENCES OF AN ELDERLY ENTOMOLOGIST

By R. P. DEMUTH*

(Continued from Vol. 96 p.272)

In the autumn of 1929 I started working in London, living in digs in Holland Park and I did not like it at all. No car meant very restricted collecting and miles of built-up suburbs in every direction but I got over it with my bicycle. On Friday morning I would bicycle to the office in the City and in the evening put it on a train and I would be in time for sugaring at Wicken or Castor Hanglands (for *oo*) or Bedford Purlieus (for *concolor*). If my destination was only thirty miles away I would bicycle all the way and thank God when I got beyond the tramlines. All roads out south of the Thames had trams for miles out to the outer suburbs and these trams had no overhead wires but collected their electricity through a slot in the road between the lines and this slot neatly fitted a bicycle tyre and off one came, killing bottle, chip boxes, treacle and all!

On June 6 (1930) I was luckier as I met Kettlewell with his car at Bath and we drove together to Branscombe near Seaton in South Devon. The drive alone in an open Lagonda was in itself a thrill which the modern generation, used to going everywhere by car, has no conception of. The undercliff at Branscombe has also changed completely. I understand that now it is a dense thicket of thorn and bramble but then it was cultivated in little fields growing violets, strawberries and new potatoes, each field separated by an evergreen hedge to keep the wind out. Very steep paths linked the fields to the top and donkeys with pannier baskets brought up the produce. It was a manmade sun trap and butterflies swarmed. June 7 was a marvellous fine day and Bernard and I made a list of the butterfly species we saw. Twenty-seven species in one day at one spot! *Sinapis* was the speciality and was abundant fluttering along the narrow donkey paths but was only in moderate condition. *Bellargus* was equally abundant, *edusa* and *atalanta* had arrived from abroad and the fritillaries were represented by *euphrosyne*, *selene* and *aurinea*. *Minima* was also present and so were all the common southern butterflies that might be out at that time.

On the Beer side of Branscombe the cliff is an outcrop of chalk and growing along its crest was a mixture of coarse grass and Nottingham Catchfly and here we decided to dusk and caught *albimacula* and *hellmanii* (now *fluxa*). Bernard had one of each in the net at the same time. I would have thought that the type of habitat and the emergence dates would have made this impossible.

June 15 (1930). Very fine again and I went to Ventnor in the Isle of Wight. I found *cinxia* in just the places I imagined but most of

*Watercombe House, Waterlane, Oakridge, Stroud, Glos. GL6 7PN.

them were over or had been thumbed (i.e. some scales had been removed either to preserve them from collectors or by a variety searcher so that he need not catch the same insect twice). However I managed to catch a number of fresh ones. They look lovely when they are first out and sit about on birdsfoot trefoil with their wings half open and generally speaking are rather sluggish. Their favourite spots seem to be the sheltered lower slopes of the undercliff often only just above the sea. I walked all the way from Ventnor nearly to St. Catherines but they were commonest nearest Ventnor. In one or two places they swarmed.

On June 21 I went to West Blean Wood hoping to find *athalia* but my diary says I was too early, anyhow I found none but I was sorry to see small pines being planted in the clearing. On June 27 I went to Kenmare in County Kerry and bicycled round the Kerry coast. Each diary entry begins the same way: "It rained most of the day!" I got very wet and had few insects to show for my energy but how energetic one was when young and enthusiastic! At dawn July 7, I left Cahirdaniel on the extreme western tip of Kerry and by bicycle, train, boat and train reached Peterborough in the evening of the 8th, took a bus to Wansford and walked the three miles to Bedford Purlieus, sugared for *extrema* and then walked the three miles back to the Haycock Inn at Wansford. My diary says that after putting on a lot of sugar I was too tired to look at it properly and I only caught a few *hellmanii* (*fluxa*).

1930 was the year I first went to the Broads. Barton Staithe is today in summer full of pleasure boats and people but then it was an isolated hamlet spreading up a green from the water where the reed cutters kept their quants (a sort of glorified punt) and these I could borrow for my night expeditions. A sheet laid on the bottom, a paraffin lamp on the sheet and one had a mobile moth trap to be poled very slowly up the narrow waterways between the reeds, reedmace and bullrush. On August 16, I was there with Kettlewell staying in one of the cottages but the weather was foul and we got very little except for *haworthii* and a few *cannae* pupae. On August 24, I was there again. My diary reads "I went to a swampy field up Stalham way and found *urticae* in amazing numbers. Quite a few were feeding but hundreds were to be found merely by parting tufts of grass when they could be seen hiding at the roots." In the following years I paid more visits. Across the broad from Barton there was an area of sallow and alder carr which fringed the wet land. Others had discovered that sugaring the spindly trunks could, on suitable nights, produce great numbers of *muscerda* (500 on a single patch must have been an exaggeration!) but I too caught a lot. This was all rather fun, poling ones quant across the broad at dusk and up a little narrow waterway to firmer ground and then pushing on into the almost impenetrable carr and reversing it in the dark on ones return and praying ones light would not go out. On one

night a thick mist blotted out everything which when I got into the open broad was no fun at all but with luck I came across a landmark and found my way back to the staithe.

I have previously mentioned that I found *ocellaris* commonly in the Brecks and how this had annoyed the great *ocellaris* expert Worsley-Wood. I was coming back from the Broads by train and beyond Brandon I noticed groups of poplars in the hedgerows and thought of *ocellaris* and returned on September 20 to try my luck. Unfortunately it was very windy and a heavy shower ruined everything but the only moth on sugared leaves was an *ocellaris*. These poplars being in hedgerows were difficult to work so I cast about for easier trees and with the help of Mr. Mallinson the schoolmaster at Fordham found the magnificent row on the Barton Mills to Brandon road. These trees have all gone now but there were huge specimens, about twenty of them with clear working space around them and plenty of low branches to sugar but best of all they dropped big branches and if these had their leaves still on, they were the finest lure and *ocellaris* was the commonest moth and I got enough for myself and all my friends and there was considerable variation. Like most autumn moths, *ocellaris* prefers its sugar to be spread on leaves and twigs.

May 10 (1931). Kettlewell and I went to Ventnor. *Cinxia* larvae were extremely abundant and full fed, crawling about all over the cliffs. We found one or two pupae in cocoons, in crevices in the rocks and also one puparium, a large silk cocoon about the size of a plover's egg containing two pupae and three larvae about to pupate; it was deep in the grass. (This does not seem to square with South's description of the pupal state.)

May 23. I was visiting Mullion Cove in Cornwall. I found larvae of *trifolii* along the crest of the cliff. They were of various sizes up to last skin, and very easy to see and I found 28 in all. While searching for them I spotted a female *livornica* sitting low in the herbage. Lots of people have found the rarer hawkmoths either on window sills, lamp posts and other unnatural resting places. To look down into the long grass and see one resting naturally was a great thrill and I suspect a rare experience.

May 29. Kettlewell and I went to Wye in Kent and sugared to the east of the Devil's Kneading Trough. There was hardly anything on sugar other than *leucophaea* of which I caught 28 including 3 on grasses and 2 in flight. And now it is extinct in England! Was I one of the guilty parties? I suppose so. Some of my diary entries make me blush with shame. For instance next day's: "We went to some large woods near Ham Street. *Fuciformis* was very common over the flowers of bugle and we must have caught nearly 80 between us, also 4 *tityus*. They were ludicrously easy to catch and I only missed one. *Euphrosyne* and *selene* were both abundant and *cardui* very common too." This was my first visit to England's most distin-

guished wood and next weekend (June 5, 1931) I went to Dungeness without really realizing what a collector's treasure-ground it was. In those days the railway line from Lydd to the lighthouse was complete with the double line of fencing posts all the way and of course I soon found *albimacula* at rest on them. "*Cardui* was abundant and at one spot I came across a vast quantity of *trifolii* larvae. They were about everywhere, on the posts and wire, on the shingle and eating all sorts of plants; broom, viper's bugloss, sorrell and foxglove." Next day's entry is again embarrassing: "I collected approximately 130 full fed *trifolii* larvae leaving ten times as many little ones."

June 26. I took the evening train to Peterborough and then on by bus to Wansford and walked to Bedford Purlieus and got one *extrema* on sugar, 4 in flight and one pair and one single at rest on its grass. Heavy dew prevented the dawn flight and I myself got back to Wansford at 4.30 in broad daylight having walked about 20 miles since 8. Next night I was back again and this time there was a dawn flight. The flight started suddenly at 1.15 and continued right through till daylight. In between these two all night expeditions I seemed to have got to Warboys and found *pruni* flying in hundreds but very worn. They were flying about bushes of sloe, privet and maple and feeding on the privet blossom.

July 7. I was staying at Rannoch on the way to Unst in the Shetland Isles. Having some energy to burn off I decided that collecting at high level on Schiehallion was the answer. "In the evening I went up Schiehallion. It was trying to rain but fairly warm. I sugared a row of posts at 2,000 feet and I then picked bunches of heather and stuck them into a wall which runs up to 2,800 feet and sugared them and lastly I sugared crowberry at about 3,000 feet. I was then above the clouds and saw a most marvellous sunset. As soon as the sun was down it began to rain steadily and washed all the sugar off the crowberry and I only saw three *adusta* on it. There were many more moths on the heather stuck into the wall, both *adusta* and *rectilinea*. The posts were quite good in spite of the rain and I took a large number of *rectilinea* and saw countless *adusta* though nothing else. I got back to the road just in time as the whole place was swallowed up in mist by 2 o'clock in the morning." Sticking sugared branches of heather into cracks in a dry stone wall was a good idea as the moths could sit on the underside of the branches protected from the weather.

July 9 (1931). I left Aberdeen for Lerwick this morning accompanied by Pennington and Poore, both keen collectors but probably not as keen as I was. Pennington was a complete Edwardian and a long since extinct species. I suppose he was in his late fifties and was getting bald and with a big black spade beard. In fact he looked very much like Edward VII. His father had been Liberal M.P. for Guildford and Pennington, a bachelor, though he slept near Lancaster

Gate, spent all day at the Reform Club where he was very difficult to dislodge. (I remember telephoning some exciting entomological news one evening. After a long wait a club servant replied "Mr. Pennington does not speak on the telephone during the dinner hour," so he never got the news!) When he collected he carried a large silver hip flask which contained a mixture of marsala and soda-water and the trouble was that Unst was dry. Unst had until recently been the centre of the herring fishery where herring were cleaned, salted and barrelled for the Polish trade. The fishing crews got so horribly drunk that it was decided to make the whole island dry. In 1931 all the crews had gone but the dryness remained and consequently a large case of mixed drinks had preceded Pennington to the Nord Hotel at Baltasound, the island capital. This was permitted for visitors but the locals were not so lucky. The steamer 'The Earl of Zetland', the 'Old Earl' to avoid confusion with the modern boat, called twice at Unst and real drinking enthusiasts would bicycle down to the first port of call and as soon as the boat cast off the ship's bar would be open and they would drink steadily for half an hour until Baltasound was reached when they would push their bicycles unsteadily ashore. Luckily the Earl did not run daily!

I think Poore then lived in Wiltshire where his family had an estate (*chryson* would fly into the house at night) and after his marriage, near Aberfeldy where he became an expert on the natural history of the Highlands and subsequently his son more so.

No entomologist had visited Unst since 1912 but luckily Pennington knew Bright of Bright's Stores on the south coast and he, a very rich man, had employed professional collectors and we were lent their letters to Bright which detailed all they had found. Apparently Bright paid them on a tariff of so much a particular insect and the letters were full of complaints about the going rate which I too thought very low: 3d each for x, 5d for y.

We sailed from Aberdeen in the morning and reached Lerwick next morning early where we had breakfast and then boarded the Earl of Zetland. This was the 'Old Earl', almost on its last legs and a very smelly old tub but the journey was one of the finest I have ever taken. It was dead calm. We called at most of the out islands often to collect sheep and as we passed near cliffs thousands and thousands of birds would fly out so that the sky looked like a snow storm and as far as the eye could see rafts of guillemot, razorbill, puffin and duck sat on the oily sea while gannet, great and arctic skua flew overhead.

My diary is worth reading as it quotes from Bright's letters.

"July 10 (1931). I got to Unst this evening. This is the most northern place in the British Isles and is about 11 miles from north to south and 4 east to west. I am staying at the Nord Hotel at Baltasound which is very comfortable and roughly in the middle of the island." (Very soon after this the Nord Hotel closed down.

Its most prominent feature was an enormous pyramid of empty spirit bottles, as high as the roof, left over from the drunken fishermen. With no refuse collection what does one do with several thousand empty bottles). "There are no trees, bushes or hedges and the ground is either bare or covered with coarse grass or stunted heather. There is crowberry and bilberry on Herma, Ness and Saxa Vord and some maritime campion on the cliffs and on the shingle at Haroldswick. *Humuli* in extraordinary forms is on all the low ground. *Exulis* was worked for by Cannon and Salvage who were sent over by Bright in 1908, 09 and 1912. They found it on the high ground west of Burra Firth between July 5 and August 5. There were two fences which crossed the peninsular here about a mile apart, one starting at Fiska Wick and the other to the south of it. They sugared both these every night and obtained up to 20 *exulis* a night but the average was about 4, one for every mile of sugared fence. They found wet nights best. The most southern of these two fences still exists (1931) but the grass has been cut away by peat diggers. The Fiska Wick fence is broken off about half-a-mile from the lighthouse shore station and then there is a new bit a mile long joining it to the southern fence. There is good grass here on the high ground."

It is about seven miles by road from the Nord Hotel to Fiska Wick and we hired the only car to take us there and the driver would then wait until 1 am. In early July it did not get darker than deep twilight and it was possible to read at midnight. All night great quantities of kittiwake would fly back and forth between the cliffs and the freshwater Loch of Cliffe and the arctic skuas which nested on the *exulis* ground would viciously dive bomb the otherwise absorbed entomologist. This was no laughing matter as one skua cut a furrow in my already slightly balding head so that the blood ran down the back of my neck. The noise from the sea birds never ceased for one moment. The great seascape spread out to the north and the only sign of man (apart from the posts) was the flick of the lighthouse on the distant rock of Muckle Flugga. Some would think it was the most exciting collecting ground in Britain, others the most terrible. Arnold Hughes who came with me on a later expedition, after ten nights of the mist and the skuas and the peat hag and loneliness never collected again and took up photography as an alternative interest!

First night. Nothing.

Second night. I got three *exulis* on my sugar between 1.30 and 2.30. The others did not wait and drove off in the car leaving me to walk back which I reduced to five miles by cutting across the hills. But what did I care! I had taken my first *exulis*.

Third night. Fiendish weather. Nothing.

Fourth night. Thick sea fog. Nothing.

Fifth night. Foggier still. 1 *exulis* (Poore).

Sixth night. Mist started to drop at 10 pm but then lifted again. 4 *exulis* in all. *Furva*.

Seventh night. A little bit better in the evening as the wind had changed to N. W. and there was no mist but it was cold. I took 4 *exulis* and *furva*.

Eighth night. A very strong N. W. wind and it was bitterly cold. My hands were so numb I could hardly hold a net. Nothing.

Return home.

My diary reads "The most curious thing is the lateness of insects on sugar. We sugared at 11 pm and did the first round about 12.20 am and the earliest *exulis* taken was at 1.10 am but this was exceptional and it was rare to find one before 2.15 and one one occasion I got 2 at 2.45 when it was almost broad daylight. All the other insects were the same and *conflua* (*festiva*) was commonest on the posts from 2.30 to 3 am (when the sun was up)."

Exulis is one of those insects (*C. tridens* is another) which look so much better alive than set. They seem very big on sugar and stand out from everything else particularly because they have little iridescent specks of gold and violet along the main veins of the forewing and these shine in the torchlight. *Assimilis* is a smaller and much duller creature.

(To be continued)

ARENOSTOLA PHRAGMITIDIS HB. (LEP.: NOCTUIDAE) IN SOMERSET. — A flourishing colony of this moth was discovered in 1984 in a marshy locality on the Mendip Hills near Cheddar. This would seem to be an extension of range westward for this species, and the first confirmed record of its occurrence in Somerset, since Turner (*Lepidoptera of Somerset*, p.15) includes it only on the basis of one record of many years ago which he considered very doubtful. — C. S. H. BLATHWAYT, Amalfi, 27 South Road, Weston-super-Mare, Somerset.

LAMPROPTERYX OTREGIATA METC.: METCALFE'S CARPET IN DERBYSHIRE. — On the night of the 5th September 1984 Archie Braddock of Long Eaton and I led a joint Derbyshire Entomological Society/Derbyshire Naturalists Trust field meeting to a wood just south of Ashbourne in Derbyshire. To our very great surprise we took a female *Lampropteryx otregiata* Metc. The site at which it was taken consists of an unmanaged piece of mixed woodland on heavy soil with a sluggish stream running through it, next to a grazing meadow which would appear to flood each winter.

The occurrence of this species in a small piece of woodland in the middle of farming country and some 150 miles from the nearest known site for it, which must either be Borth Bog in Wales or the New Forest in Hampshire, suggests that it is much more widely distributed in this country than the previous pattern of records indicated. — MARK STERLING, Department of Law, University Park, Nottingham.

MONOCHROA NIPHOGNATHA GOZMÁNY, 1953
AND *ATHIRIPS RANCIDELLA* HERRICH-SCHAEFFER,
1854 (LEPIDOPTERA: GELECHIIDAE),
NEW TO THE BRITISH FAUNA

By J. M. CHALMERS-HUNT*

Monochroa niphognatha Gozmány

While moth hunting with Mr. R. G. Chatelain in some extensive fresh water marshes, at Stodmarsh National Nature Reserve, Kent, on the night of the 26th June 1984, two males of a gelechiid species of unfamiliar appearance were attracted between 10.30 and 11.00 p.m. to the Tilley lamp I was carrying. During the same period, about a dozen examples of the very local reed-feeding *Brachmia inornatella* Douglas (Lep.: Gelechiidae) also appeared at the lamp, a species seemingly new to East Kent (VC15) and only once before noted in the county.



Fig. 1 (top). *Monochroa niphognatha*, male, Stodmarsh, Kent, 26 June 1984, al. exp. 13 mm. Fig. 2 (bottom). *M. suffusella*, male, Wicken Fen, Cambridgeshire, 9 June 1921, al. exp. 13mm.

*1 Hardcourts Close, West Wickham, Kent BR4 9LG.

Examination of the two unidentified specimens on the return home revealed a marked similarity to *Monochroa suffusella* Douglas, and on submitting them to Dr. Sattler (British Museum, Natural History), they were compared with the specimens of *M. suffusella* in the Museum and with the single example there of *M. niphognatha*. They appeared to conform to the latter, and examination of the genitalia confirmed they were in fact this new species to the British fauna, and so were exhibited as *M. niphognatha* at the meeting of the British Entomological and Natural History Society on the 12th July 1984. Having informed a friend, Mr. Norman Heal, of my good fortune at Stodmarsh, he proceeded to the locality on the 8th July, and there took a further two male *niphognatha* at light.

A description of the imago follows: Alar expanse 12-13 mm. Head whitish-ochreous. Forewings whitish-ochreous, becoming fuscous apically; discocellular stigma dark fuscous; subcostal oblong fuscous stigmata at $\frac{1}{6}$ and $\frac{1}{3}$; an indistinct, fuscous mid-plical mark. Hindwings pale grey. NB. *M. niphognatha* lacks the characteristic costal spot present in *M. suffusella* (see figure 2).



Fig. 3. *Monochroa niphognatha*, male genitalia

The species was first described from Hungary (Gozmány, 1953), since when it has been found in Sweden (Svensson, 1980) and Denmark — dates of capture, 27th June 1981, 18th June to 9th July 1982 (Buhl et al., 1981). The early stages are apparently unknown and its foodplant has yet to be discovered. However, in an interesting communication to me, Mr. I. Svensson (1984) writes: "*Monochroa niphognatha* seems to have had a good year in 1984, or possibly it is because of increased collecting in suitable localities. It was discovered in two more Swedish provinces: Blekinge and Öland. Most specimens were collected coming to mercury lamps,

but in 1983 I swept two worn specimens on 26.7, probably also the latest date in Sweden. The localities are always moist meadows with scattered *Salix*, some *Carex*, *Lysimachia vulgaris* and *Polygonum*, probably *amphibium*. Most Swedish collectors think *Lysimachia vulgaris* is the food-plant, but *Polygonum* could be considered. The two swept specimens were hiding in *Polygonum* stands".

In the order of classification *M. niphognatha* should be placed between *M. hornigi* Stdgr. and *M. suffusella* in Bradley, Fletcher & Hall-Smith (1979-83), and numbered 740a accordingly.

***Athrips rancidella* H.-S.**

Since the 7th July 1971, I have collected over the years from my garden m.v. light trap at West Wickham, a number of specimens of a gelechiid that have remained unidentified until recently. These I submitted to Mr. E. S. Bradford, who was unable to identify them with any known British species. They were then shown to Dr. Sattler who recognised them as being referable to *Athrips rancidella* H.-S., a species new to the British list. The moth may have a fairly long period of emergence, since the earliest date of occurrence of my specimens is the 3rd June (1975), and the latest the 14th August (1984).



Fig. 4 (top). *Athrips rancidella*, male, West Wickham, Kent, 7-19 July 1971, al. exp. 14mm. Fig. 5 (bottom). *A. rancidella*, female, same data, al. exp. 13mm.

A description of the imago after Busck (1934) is as follows: Alar expanse 12-14 mm. Labial palpi dark fuscous, flecked with ochreous, especially on inner surfaces and on terminal joint. Antennae blackish fuscous with narrow light ochreous annulations. Face light fuscous mixed with ochreous. Head and thorax dark fuscous with each scale narrowly tipped with ochreous. Forewings uniformly dark fuscous, mixed with silvery white; each scale dark with base and extreme tip silvery; no other markings; cilia concolorous. Hindwings dark fuscous, a shade lighter than the forewings; cilia grey. Legs dark fuscous, tarsi with narrow ochreous annulations.

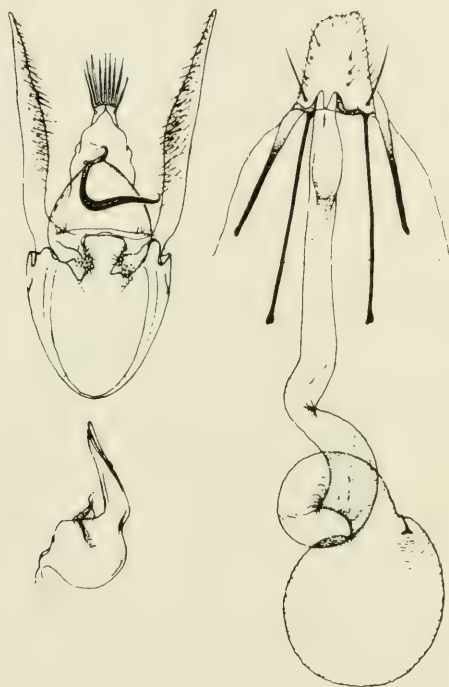


Fig. 6 *Athrips rancidella*, genitalia. Male (left), female (right).

Abroad the species is local in central and southern Europe (where its foodplants are stated to be *Prunus spinosa* and *Crataegus monogyna*), its range extending thence to Turkmeniya in Asiatic U.S.S.R. It is also recorded from Oregon, U.S.A., where it was bred from *Cotoneaster horizontalis*. Note: A *Cotoneaster* in my garden shows much evidence of larval feeding, the work I suspect of *A. rancidella*. However, I hope shortly to be able to confirm this and to report my findings in the pages of this journal.

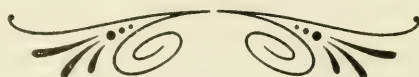
A. rancidella should be placed between *A. tetrapunctella* Thunb. and *A. mouffetella* L. in Bradley, Fletcher & Hall-Smith (1979-83), and numbered 761a accordingly. The synonymy, after Leraut (1980), reads: *A. rancidella* H.-S., 1854; *triatomaea* Mühlig, 1864; *vepretella* Zell., 1870; *superfetella* H. de Peyerimhoff, 1877; *cotoneastri* Busck, 1934; *triatomea*, error; *cerasivorella* Kuznetsov, 1960.

Acknowledgements

I do thank Dr. Klaus Sattler for determining my examples of *M. niphognatha* and *A. rancidella*, as well as for his valued advice in the preparation of this paper. With regard to the illustrations, I am much indebted to Mr. Eric Bradford for drawing the genitalia, and to the Photographic Unit (BMNH) for photographing the specimens, and offer both my grateful thanks. I also thank Mr. Ingvar Svensson, who kindly wrote in reply to my letter requesting information, and the Nature Conservancy for permission to visit Stodmarsh.

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Notes and Observations

LATE EMERGENCES OF *BISTON BETULARIA* L. (LEP.: GEOMETRIDAE). — M. N. McCrea's useful observations concerning *B. betularia* (*Ent. Rec.*, 96. 186) call for comment. Both Barrett (*Lepidoptera of the British Isles*, 1895-1902) and South (*Moths of the British Isles*, 1908) give May and June, sometimes July, as the flight period of this moth, while the former states also that it has been taken as early as the end of March. In S. E. England it does in fact fly throughout July and well into August. During the decade 1975-1984 some 1,500 *betularia* have been noted at my m/v light at Dartford; of these just over 50% were for July, 36% for June, 10% for August and just under 4% for May. Also, in nine of the years from 1969 *betularia* was recorded at the trap as late as August 20th, the latest date being a fresh female on August 30th, 1984.

B. Kettlewell (*The Evolution of Melanism*, 1973) emphasizes that *B. betularia* in Britain is invariably univoltine, and flies from late May to August, and that the larvae are found from June to October. Here the larval period stretches into November; thus, on November 10th 1984 several were noted on broom, laburnum, *Circis siliquastrum* (Judas-tree) and ornamental *Prunus*, the first three of which do not appear to have been noted previously for Kent, which is surprising in the case of broom and laburnum, upon which *betularia* feeds regularly in N. W. Kent.

Thus it would appear that September *betularia* are undoubtedly but late examples of an extended single brood. However, is not this species perhaps, in S. E. England at least, one whose peak emergence tends to be later than formerly? — B. K. WEST, 36 Briar Road, Bexley, Kent.

CATOCALA ELOCATA ESPER IN THE CHANNEL ISLES. — A female specimen of this moth has recently been found in the G. B. Coney Collection of Lepidoptera in the City of Bristol Museum. The data on the specimen reads as follows: "On wall of house St. Saviours, Jersey. G. B. Coney 20.X.1903. Identified by Mr. Holland at the Hope Museum Oxford. 8.XI.1907." This would appear to be the first record of this species from Jersey (communication with R. F. Bretherton). This species, which is widespread in France, may well turn up in Great Britain, perhaps there are specimens in collections which have been misidentified as *C. nupta* which it closely resembles. — N. W. LEAR, 178 St. John's Lane, Bedminster. Bristol BS3 AR.

APION SEMIVITTATUM GYLLENHAL (COLEOPTERA: APIONIDAE) IN SOUTH ESSEX. — It would seem worthy of placing on record the occurrence of the weevil *Apion semivittatum* Gyllenhal in my small back garden at East Ham, [London], South Essex on 30th September 1984. Several specimens were found on plants of annual mercury *Mercurialis annua* which my wife, Lesley, was weeding-out

from the flower bed. According to my colleague at the Passmore Edwards Museum, Dr. Paul Hyman, who was also responsible for the identification, this is an extremely local insect, known previously only from East and West Kent and East Sussex. To my South Essex record can be added a second, which in fact precedes my own by one month, at Bully Fen, Stratford, in the Lea Valley, on 29th August 1984, this record having been made by Dr. Hyman himself. — COLIN W. PLANT, Assistant Curator, Natural Sciences (Biology), Passmore Edwards Museum, Romford Road, Stratford, London, E15 4LZ.

RHODOMETRA SACRARIA L. (LEP., GEOMETRIDAE) TRAVELLING BY SHIP. — On 23 August 1984 I travelled by ship from Iráklion, Crete, north to the island of Thíra, a distance of 68 nautical miles which took about four hours. A live vestal, *Rhodometra sacraria*, spent the journey clinging to the wood-work around a port-hole. I do not know if the moth left the ship at Thíra, and nor do I know if it flew onto the ship in Crete. In August 1984 I several times saw specimens of *R. sacraria* at lights on a villa near Rethimnon in northern Crete, and I assume the moth is a common resident. It would, however, be interesting to hear of other records of this well-known migrant hitching a lift. — DENIS F. OWEN, 66 Scraftoft Lane, Leicester LE5 1HU.

ACHERONTIA ATROPOS L. AND AGRIUS CONVULVULI L. IN SOMERSET. — During September 1984, a total of about 45 larvae and three pupa of *Acherontia atropos* were found at Westbury-sub-Mendip, nr. Wells, Somerset. Between the 3rd and the 8th September about 25 larvae were found by Mr. R. Godier of 'Green Lantern' P. O. Stores, Westbury-sub-Mendip at the following places in and around the village; four at ST 492 493; about a dozen at ST 496 489, two at ST 495 489; three at ST 497 488; four at ST 499 488 and one at ST 495 489. The larvae were all in the last instar and had all gone down for pupation by the 11th. The larvae were found on potato in small potato patches in gardens and allotments. A visit to the village on the 9th, to collect the larvae and to search for more was rewarded by the discovery of two larvae at ST 495 489 and two pupae were dug up at ST 496 488 and also it was heard that a pupating larva had been dug up that morning at ST 492 493. A second visit was made on the 16th to collect yet more larvae; four half-grown *atropos* larvae found on potato in a market gardener's allotment at ST 505 492 on the 11th and also, found at the same place and date, and unidentified hawk moth larva which was preparing to pupate. On seeing the larva, it was easily identified as that of *Agrius convolvuli*. A quick visit to the site to look for *atropos* and *convolvuli* larva resulted in the discovery of a pupating larva of *convolvuli* in freshly dug earth at the end of a patch of strawberries which had become overgrown by *Convolvulus arvensis*. On the 18th I received news that a pupa of *atropos* had been dug up

that morning at ST 499 489. Between the 25th and 30th October, about a dozen more larvae of *atropos* were found at ST 491 498. A further two *convolvuli* pupae were dug up at ST 505 497 on the 4th October followed by yet another two pupae on the 13th at the same place. A larva of *convolvuli* was also found feeding on bindweed at ST 499 488 on the 28th September. — N. W. LEAR, 178 St. John's Lane, Bedminster, Bristol, Avon BS3 5AR.

CATOPTRIA MARGARITELLA MARGARITELLA D. & S. IN KENT.

— J. W. Leech in his book *British Pyralides*, page 78 published in 1886 mentions this mainly northern and western species, as occurring at Deal, Kent. This note was repeated in *The Butterflies and Moths found in the Dover & Deal District*, which the late Bernard Embry and I published in 1949. We were not then aware of any record of this species having been taken there and I still have not heard of any from Kent. However one came to the M.V. trap in my garden on 26th July, 1984. The wind was in the North East and there was a heavy dew, the temperature dropping to a minimum of 47° F. Deal is about 5 miles from here and the area of marshy land in that district must have been considerably reduced since Leech's day by development and by-pass roads. This record, however, seems to confirm Leech's note, although it has taken 98 years to do so! — G. H. YODEN, 18 Castle Avenue, Dover, Kent.

PERIZOMA SAGITTATA F.: MARSH CARPET IN NOTTINGHAMSHIRE.

— This moth is listed in the Red Data Book of British insects as a Category 2 species, signifying that it is liable to become endangered if factors causing its decline continue. It is therefore pleasing to record its presence in the floodplain of the River Idle in North Nottinghamshire. It was first discovered by Richard Fairclough in 1960 on Misterton Carr as a larva, feeding on the seeds of *Thalictrum flavum* (Common Meadow Rue). It was found in the general area of Misterton by several entomologists in subsequent years and continues to have been reported until at least 1975 when there is a record of 19 larvae. The area around Misterton Carr has been more extensively improved than most areas of the floodplain and a search in 1981 produced no larvae and very few suitable sites for the foodplant.

In 1983 and 1984 an extensive search of the floodplain was made and the insect was discovered in three adjacent parishes; 200 larvae being recorded from one site in 1983, 100 in 1983 and 70 in 1984 from a second, and 9 from a third in 1984. The last figure is almost certainly unrepresentative of the strength of the colony in this site as the date of search was the 30th August, which is much too late. The first site was not searched in 1984.

The long term future of the Nottinghamshire colonies is precarious. Whereas in other parts of the country the larval foodplant grows in open marshland and old grazing meadows, in the River Idle floodplain it occurs almost exclusively on the sides of drainage

ditches. It is unlikely that any more normal sites for the foodplant will be found as the last of the grazing meadows which flooded regularly was drained as part of an improvement scheme in the early 1970s and, with the exception of one small site just inside Lincolnshire in which the foodplant does not occur, there are no suitable open fenland sites left.

The survival problem of the moth in drains is that if the drains are not periodically dredged, they tend to silt up and eventually become too dry to support the foodplant. On the other hand, when the drains are dredged any colonies of the species are destroyed unless it is an imagine. Added to this is the problem caused when unimportant drains are filled in to make larger and more efficient fields, and the insecticides intended for the edges of these agricultural fields also affect the margins of drains. The survival of the insect in Nottinghamshire therefore depends to a significant extent on the policy of the River Idle Drainage Board and that of local farmers.

My experience of this insect in Nottinghamshire leads me to make two tentative suggestions. The first is that, given the widely scattered pattern of records from Cambridgeshire and Norfolk and the existence of this colony, the insect was once widely distributed in suitable areas between the River Humber and southern Cambridgeshire. It would therefore be worth searching drainage dykes around the margins of fields in former fens or flooded grazing meadows in this general area for other relic colonies. The second is that, the most successful method of conservation of the insect where it occurs in drainage dykes, would be for an appropriate conservation body to purchase two fields either side of a drain in which it occurs, and to manage the drain with a staggered programme of dredging. — MARK STERLING, Department of Law, University Park, Nottingham.

LUPERINA NICKERLII FREYER: SANDHILL RUSTIC IN KENT. — Following the discovery of several resident populations of *Luperina nickerlii* along the Essex coast, a survey of likely-looking salt-marsh sites on the Kent side of the Thames estuary was made on 29th August 1984, by my son Mark and myself; and at one locality, on the Isle of Sheppey, the species was found to be tolerably common and obviously well established. — BERNARD SKINNER, 5 Rawlins Close, Addington, South Croydon, Surrey CR2 8JF.

PAPILIO NIREUS LYAEUS DBL.: PUPAL DIMORPHISM. — A few years ago, I published a paper (1981, *Entomologist's Record*, 93: 75-76) in which I recorded the number of each colour phase of the pupa of *Papilio demodocus* Esp. pupating in total darkness on a smooth surface (glass) and a rough one (sand paper), all other conditions being identical. Green pupae were in a rather larger proportion on the smooth surface. (23.40: 6.25).

I have recently concluded a similar experiment with *Papilio nireus lyaeus* Dbl. As before, larvae were collected in the 1st, 2nd or 3rd instar and reared in full daylight in individual glass jars. Then, after they had produced their final, semi-liquid evacuation, they were transferred to rather larger glass jars, lined either inside or out, with a cylinder of sand paper and placed in a closed wooden box for thirty-six hours until pupation had been completed. Unfortunately far fewer *nireus* larvae were available, but the results were far more definite. On the smooth surface all the pupae (9) were of the green form (100%), on the rough four pupae were green and eight were purplish-brown (33 1/3: 66 2/3); *nireus* not having a pink pupal phase, unlike *demodocus*. — D. G. SEVASTOPULO, F.R.E.S., P.O. Box 95617, Mombasa, Kenya.

THALERA FIMBRIALIS SCOP.: SUSSEX EMERALD AND CLOSTERA ANACHORETA D. & S.: SCARCE CHOCOLATE-TIP AT DUNGENESS IN 1984. — On the 21st August 1984 at Dungeness, Kent, I took a male *T. fimbrialis*, in good condition generally but a trifle faded. It was a good night and I also noted there four male *Clostera anachoreta* and over 40 *Earias clorana* L.: Cream-bordered Pea. — G. SENIOR, 19 Chippenham Mews, London W9 2AN. [*T. fimbrialis* has become very much scarcer during the past decade, and the previous record of occurrence appears to have been one at Dungeness in 1980. — J.M.C.-H.]

IDAEA VULPINARIA H.S.: LEAST CARPET IN NOVEMBER. — On the morning of 1st November 1984, I was surprised to find a fresh male *I. vulpinaria* in the garden trap. The moth is a regular visitor in July but this is the first time I have met the species so late in the season. — R. G. CHATELAIN, 65 East Drive, Orpington, Kent BR5 2BY.

COMMOPHILA AENEANA HBN. IN NOTTINGHAMSHIRE. — In 1984, a strong colony of this attractive Cochyliid was discovered independently by Brian Elliot and myself in a railway cutting in South East Nottinghamshire. The first specimens were seen in mid-June but the peak emergence period seems to have been in the first week of July when as many as 50 were seen flying on a hot, sunny afternoon. — MARK STERLING, Department of Law, University Park, Nottingham.

A CHANGE OF GENERIC NAME FOR THE COCOA MOTH, ACROCERCOPS CRAMERELLA (SNELLEN) (LEP.: GRACILLARIIDAE). — The cocoa moth or cocoa pod borer is an established pest in cocoa plantations in many parts of S. E. Asia; the larva bores into the green pods. The earliest reported infestations were from Java around 1895, and the species was described by Snellen in 1903 (in van Deventer, *Tijdschr. Ent.* 46: 84-86) and named *Gracilaria* [sic] *cramerella*. In 1912, Meyrick (in Wytzman, *Genera Insectorum*, fasc. 128: 18) transferred *cramerella* to the genus *Acrocercops*, and it has remained there up to the present time. Taxonomic studies

have shown, however, that it does not belong in *Acrocercops* but is congeneric with the New Zealand species *Conopomorpha cyanospila* Meyrick (1886, *Trans. Proc. N. Z. Inst.* **18**: 183) (type-species of the genus). It is accordingly removed from *Acrocercops* and assigned to *Conopomorpha* Meyrick, 1886: *Conopomorpha cramerella* (Snellen, 1903), **comb. n.** — J. D. BRADLEY, c/o Dept. of Entomology, British Museum (Natural History), Cromwell Road, London SW7 5BD.

A LATE RED ADMIRAL IN CO. DURHAM. — On the 1st November 1984, I saw a Red Admiral in our cottage garden on the 600 ft. contour line in Cotherstone in Teesdale, Co. Durham. I imagine it is unusual for this butterfly to appear at such an altitude so far north so late in the year. Dr. J. P. T. BURY, 71 Grange Road, Cambridge CB3 9AA.

DANAUS PLEXIPPUS L. IN GLOUCESTERSHIRE IN 1983. — A female specimen of this butterfly was found by a Mrs. Haynes on the 18th September 1983 in Dyrham Park, Hinton, nr. Bristol (ST 743 766). The butterfly was taken to the City of Bristol Museum for identification, where it now remains. — N. W. LEAR, 178 St. John's Lane Bedminster, Bristol BS3 5AR.

COLIAS CROCEUS GEOFF. — Five Clouded Yellows were observed during September 1984, one on 1st September flying aimlessly and settling occasionally in a field of lucerne four miles east of Dorchester, Dorset. On the 12th September, another was flying strongly south-westerly along the beach at Beer, Devon; and, at Seaton, Devon two were flying around and feeding on Valerian growing on the cliff side, and the other flying strongly westerly along the beach. — A. J. BALDWIN, 33 Defoe Avenue, Kew Gardens, Surrey.

BLAIR'S SHOULDER-KNOT: LITHOPHANE LEAUTIERI HESPERICA BOURSIN. — I would like to record the occurrence of a single example of this species on the 6th November 1983, at Bar Hill, Cambridgeshire (O.S.TL375634). The moth, a male, came to light on a cool night, when the catch was otherwise poor.

This species which I had previously taken in 1981 and 1982 in Ringwood, Hants, was first recorded in Britain at Freshwater, Isle of Wight, in 1951 (Blair, *Entomologist*, **85**: 123; idem *Ent. mon. Mag.*, **88**:14) when a single specimen was taken at light. Two further specimens were recorded from Eastbourne in 1954 (Ellison, *Entomologist*, **88**:9). A further two were taken in each of these localities in 1955 (Ellison, *Proc. S. Lond. ent. nat. Hist. Soc.*, **1955**:25; Mere, *Ent. Gaz.*, **7**:55 Kettlewell, *Entomologist*, **90**:1), and in 1956 the species was in reasonable numbers on the Isle of Wight (Kettlewell, *loc. cit.*). Since then it has spread east and west along the south coast and is moving northwards. Its numbers have increased with this spread, so that in 1973 it was recorded as very common in some parts of east Sussex where its foodplant *Cupressus macrocarpa* grows (Pratt, *History of the Butterflies and Moths of Sussex*). This

spread and increase in its occurrence has meant that it has become less noteworthy, and I have found it difficult to discover how far it actually has spread since it first arrived in this country, probably from Southern France. As far as I know, the Bar Hill male is the first record for Cambridgeshire, and at present it is the most northerly British record I have come across for this species. I would be pleased to hear of other records of *leautieri*, particularly those from counties away from the south coast. — Dr. M. E. N. MAJERUS, University of Cambridge, Department of Genetics, Downing Street, Cambridge.

SEMI-ARBOREAL HABITS OF SPILOSOMA AND ARCTIA SPECIES.

— I was interested to see B. K. West's note (1984, *Ent. Rec.* 96: 180-181) in which he deplores the vagueness of the published food-plant information for *Spilosoma* species, even in Vol. 9 of *The Moths and Butterflies of Great Britain and Ireland* (1979, ed. J. Heath and A. M. Emmet) which is supposedly a fresh compilation of our communal knowledge. I, too, was disappointed in the staleness of the information on the oviposition and feeding habits of *Spilosoma* and *Arctia* species — but I concluded that "communal" is the operative word, and that if I had information contrary to the last published source it was really up to me to let the author of the relevant section of MBGBI know so that the written record could be improved. This I had failed to do, but West's comments (*op. cit.*) now prompt me to record that, over the years, I have found egg batches, or very densely aggregated early instar larvae, of *Spilosoma* and *Arctia* species on trees as follows: *Spilosoma luteum* (Hufnagel) on *Quercus robur*, *Sorbus aria* (twice), *Prunus spinosa* (thrice), *Crataegus monogyna*, and *Salix atrocinerea*; *Arctia caja* (L.) on *Sorbus aucuparia*, *Salix aurita* (twice), and *Salix atrocinerea* (twice); and *Arctia villica* (L.) on *Salix cinerea*. I have never found eggs of *Spilosoma lubricipeda* (L.), and only once have I found arctiid eggs on low plants (which, however, I have searched very much less): *A. caja* on *Stellaria media*. Bearing in mind the readiness with which these moths oviposit on practically any surface in captivity, the high mobility and seemingly genuine polyphagy of the larvae, and the fact that these species often abound in almost treeless areas, it would be unwise to make too much of these records. However, the strictly arboreal braconid wasp *Apanteles* (*s. lat.*) *lacteicolor* Viereck includes *S. luteum* in a host range comprising young hairy arboreal caterpillars of several families, indicating that the parasite probably has had a fairly regular history of contact with early instar *S. luteum* larvae on trees and bushes, and all things considered it seems that *S. luteum*, *A. caja* and perhaps *A. villica* may oviposit on trees fairly regularly at least. In these cases the young larvae seem to feed on the tree in a highly aggregated way, until eventually they are disturbed enough to fall off — and then, surely where people find them among the herb and shrub layer will to a large

extent depend on what sort of plants and growth forms can be examined or sampled effectively. Methods (West, *op. cit.*) such as shaking climbing plants festooning fences, examining large leaved plants like docks for holes at the convenience of hedge bank height, or even (at least for the gardeners among us) pulling garden weeds, must rank as highly effective sampling techniques. The sources and experiences cited by West (*op. cit.*) and here do, however, suggest that *S. lubricipeda* may be less apt than *S. luteum* to oviposit on trees, given that both species are and were roughly comparable in abundance in the areas under consideration, and further information on this possible difference would be interesting. — M. R. SHAW, Royal Scottish Museum, Chambers Street, Edinburgh EH1 1JF.

COSSUS COSSUS L. (GOAT MOTH) IN S. E. LONDON, 1984. — The occurrence indicated by the title of this note would not, perhaps, be particularly remarkable, were it not that the species has, I understand, suffered a very definite decline in latter years over much of the country which certainly includes the London and south-eastern districts; and further, that I had never either heard of its being found in my own area since the 1920s, or myself seen a trace of it there in any stage. Trees, usually oaks, infested by the larva could from time to time be found in such places as Windsor Great Park, but none in the last decade or two — a state of affairs that seems fairly typical.

I was, therefore, astonished one day last May to come upon a sap-run low down on the trunk of a fair-sized and healthy oak by the roadside at the edge of Blackheath near Greenwich Park, exhaling the strong unmistakable beery odour associated with the larval stage of *Cossus*, and patronized by a small assemblage of sap-loving insects. In point of species, these were all such as might be attracted to flowing sap unconnected with *Cossus* — the lack of really characteristic 'Cossus' beetles being a result of the evidently great rarity of the moth in the area. The most prominent species on that and later occasions was the Nitidulid *Soronia grisea* L., which swarmed in crevices of bark down which sap was flowing and under debris at the base where it had soaked into the soil. Some of the specimens were unusually large for this species, thus more resembling *S. punctatissima* Ill. — a far less common insect. A few of the small Mycetophagid *Litargus connexus* Geof. ran rapidly in the sunshine in and out of cracks of bark, and were difficult to secure in good condition on account of their agility combined with their fragility. Earwigs too (seldom about in bright daylight) paraded excitedly up and down. On a later visit, what had looked like a dried-up flow on the opposite side of the trunk was found to have been reactivated, whilst another, smaller, one had appeared between the other two. By 20th August all three were dry, which could be due to drought restricting the sap, cessation of larval feeding, or both. On

that date, the largest patch (at which a trace of the *Cossus* odour lingered) produced a male of the Muscid *Phaonia trigonalis* Mg. (= *laetabilis* Coll.) — no novelty to the district, but the first I had seen in conditions answering in all respects but locality to its classic habitat, viz. *Cossus* oaks in the New Forest.

It would be premature, no doubt, to see this isolated incident as heralding any degree of reversal of the Goat Moth's long-standing decline in the south-east London suburbs. — A. A. ALLEN.

HORNET CLEARWING: *SESIA APIFORMIS* CLERCK. — On the 27th July 1984, I noted a specimen of this moth by the river Cray in Foots Cray Meadows, Sidcup, Kent. It was resting on a leaf of a poplar sapling about four feet from the ground, and I was able to observe it for about 30 seconds before it flew off. — D. J. WILSON, Nature Conservancy Council, 19/20 Belgrave Square, London SW1X 8PY.

CHORISOPS NAGATOMII ROZK. (DIPT.: STRATIOMYIDAE) IN SUFFOLK AND S. E. LONDON. — I took a female of this recent addition to our list, described as lately as 1979 (see Allen, 1984, *Ent. mon. Mag.* **120**: 150) by sweeping various trees including spruce and cedar, in Brandon Park, Suffolk, on 5th August 1983. This appears to be the second record for the county, the first being for Shadwell Park (1970); in my note cited above Suffolk was accidentally omitted from the half-dozen or so counties for which the fly is recorded.

On 27.viii.84 I swept another ♀ *C. nagatomii* from a Lombardy poplar, one of a long row fringing a sportsground near here, and on 8.ix yet another off field maple about a mile further east at Shooters Hill. This was gratifying as up to then I had only been able to find its commoner congener, *C. tibialis* Mg., in my area (several in the garden here and in a park at Charlton, 1977-8). As before, their identity was at once evident — the lighter, brighter colouring and slightly greater size marking them out from the more sombre-looking *tibialis*. Apart from the far more extensively yellow abdomen, the thorax is often (though not always) a brilliant pure emerald green such as I have not so far seen in the last-named. These finds of *nagatomii* do not constitute new records for Kent, there being already one from near Tonbridge, but they should be the first for the metropolitan area. — A. A. ALLEN.

MALTHINUS FRONTALIS MARSH. (COL.: CANTHARIDAE) IN S. E. LONDON; AND ITS HABITAT. — I met with three females of this very distinct species whilst beating and sweeping under oaks in the woods clothing the lower western portion of Shooters Hill (Eltham Common) on the evening of 20.vii.84. They occurred separately, but all within a limited area. (Males could not be expected at so late a date.) I had worked the latter on earlier occasions in that and previous years, without finding the beetle; indeed I had only encountered it in three localities, all well outside the London

area. The species is not common; the VCH list for Kent (1908) gives as localities only Cobham Park and Birch Wood, and none in East Kent. The nearest ones to London listed by Fowler in *Col. Brit. Isles* (1890) are in Surrey — Esher, Shirley etc.

A misconception seems to have grown up concerning the habitat of this *Malthinus*, possibly originating with Stephens whose *M. pinicola* (= *frontalis*) is recorded from 'pines and firs' (at Ripley, Surrey), whilst his *M. frontalis* and *immaculatus* (another synonym) are noted from simply 'trees' (1939, *Man. Brit. Col.*: 192). Despite the latter datum, both Fowler (1890) and Joy (1932) connect it exclusively with fir trees; but I have not seen this association given by Continental authors. Though the idea must, of course, have some basis in fact, my experience tends to suggest that any such association is scarcely more than casual. Thus, besides one from pine in the Suffolk Breck, I have swept *M. frontalis* singly once or twice under spruce in Windsor Forest, but, far more often, have beaten it off mature and mostly ancient oaks in the area, once in some small numbers, and found one walking on the trunk of a large oak. Mr. P. J. Hodge likewise finds it on or about old oaks in a Sussex locality, and does not connect it with conifers. I first took it singly off willow and alder along a N. Somerset stream far from any fir trees but close to a rotting alder. The implication seems to be that decaying wood in some form (in trunks, boughs, or twigs, or perhaps in rot-holes) is the basic requirement; and whether the tree happens to be coniferous or deciduous is likely to be a matter of chance, or to depend on the type dominant in a given locality. If there is a preference, however, it would appear often to be for oak. — A. A. ALLEN.

LARVAE OF SWALLOWTAIL, *PAPILIO MACHAON* L., FEEDING ON THE EPIDERMAL LAYER OF FENNEL STEMS. — In August 1984, at Réthymnon in Crete, I found four nearly fully-fed larvae of *Papilio machaon* feeding on the green, outer (epidermal) layer of the stems of fennel, *Foeniculum vulgare*. Judging from the way the fennel leaves had died back to the base of the plant, the larvae must have eaten nothing but stem epidermis, as no fresh leaves could have been available for at least several weeks. Three of the larvae were reared in captivity and produced butterflies about a week after pupating. I saw adult *P. machaon* throughout Crete, often in association with roadside clumps of fennel, but no further larvae were found, and nor could I detect the tell-tale pale patches where the epidermal layer had been chewed from stems — this looks a little like the "barking" of trees by rabbits or deer but, of course, on a small scale. — DENIS F. OWEN, 66 Scraftoft Lane, Leicester, LE5 1HU.

A FOURTH CAPTURE OF *ADERUS BREVICORNIS* PERRIS (COL.) AT WINDSOR. — Of this very scarce beetle, known as British on a mere handful of records from the counties of Sussex, Berks.,

Hants., and Devon, I had the good fortune to beat a specimen from a mature oak in Windsor Great Park on 4th July last. Accompanying it were *Scraptia fuscata* Müll. singly and its relatively common congener *A. ocellatus* Panz. more freely. It is the second example of *A. brevicornis* taken by me in the locality (and the third that I have seen there) — making, with singletons by two other collectors, the fifth hitherto known form the Windsor area (see Allen, 1959, *Ent. mon. Mag.* 95: 120). As my previous specimen was taken on 11th September, the two captures between them probably span almost the whole activity-period of the species, which is a long one for such a rare insect. — A. A. ALLEN.

THE WHITE ADMIRAL: *LADOGA CAMILLA* L. IN WEST KENT IN 1984. — Two observations on the terrace of my flat at Shoreham during 1984 may possibly be of interest. On 14th August a very worn and elderly male *Ladoga camilla* alighted and after being photographed, died. Whilst this species is not, I believe, unknown in this area, it does not normally visit gardens. To-day, 29th September, an apparently fresh female *Colias crocea* Geoff. settled on my verandah roof long enough for positive identification before flying off. This species was common enough last year, but this was my only sighting in 1984. — H. J. WILDBORE, 2 Shoreham House, Shoreham, Sevenoaks, Kent TN14 7RY.

COMMUNAL CONJUGATION IN *TIPULA PALUDOSA* MG. (DIPTERA: TIPULIDAE). — During the night of 8th-9th September 1984, whilst running a 125watt lamp on a sheet at Great Bookham Common, Surrey, several *Tipula paludosa* very rapidly assembled, including several pairs *in copula*. To the amusement of the assembled company, three examples of this crane-fly were observed coupled, (tripled?), on the sheet, two males and a single female. One of the males had successfully paired with the female, and these two insects were aligned tail to tail at an angle of 180 degrees to each other. The second male was observed several times attempting to pair with the already attached female, by aligning itself parallel to her curling his abdomen around in frenzied efforts to make contact. After a few minutes he was apparently successful in this venture, having clasped the female's genitalia in such a manner that it was quite impossible to see which male was in fact carrying out the vital act. After some ten minutes I boxed the threesome, and they remained coupled in the pill-box until the following morning. Out of interest I picked up the bundle of insects holding the wings of each individual in turn. It was soon apparent in this manner that the coupling was firm, and not even a moderately sharp shake or two could separate any of the males from the female. Examination with a hand lens showed that each male was clasping an equal portion of the available female genitalia, and had I not always assumed such a feat impossible in insects, I would have been quite convinced that both males were actively mating with the same female at the same

time. Following the initial frantic activity on the part of each, both males were at once sedate as soon as "coupling" had occurred.

I had always assumed that pheromone production by female insects ceased as soon as a male had coupled, thereby avoiding the undesirable attentions of further males. Certainly this appears to be the case in that classic pheromone producer *Saturnia pavonia* Linnaeus, the emperor moth, when males instantly lose interest in the female as soon as she has been paired, (although they may still hang around the scent on adjacent objects). Perhaps then this is not necessarily the case! — C. W. PLANT, Assistant Curator, Natural Sciences (Biology), Passmore Edwards Museum, Romford Road, Stratford, London, E15 4LZ.

SIBINIA ARENARIAE STEPH. (COL.: CURCULIONIDAE) IN WEST KENT. — On 17th August last, while grubbing under and at the roots of herbage on a fairly dry track near a creek of the R. Darent near its confluence with the Thames in the Crayford Marshes area, I was pleased to come upon a fresh example of the pretty little weevil named above, and shortly afterwards another. Given time, a series could probably have been obtained. This is regarded as a very local coastal insect associated with '*Arenaria maritima*' — a plant whose name I do not find given by modern authorities; I had previously met with only two specimens. In the present case the plant in question is what I believe to be the related *Spergularia salina* J. & C. Presl. *Sibinia arenariae* would seem to be new to West Kent, though recorded from the extreme west of East Kent (Sheerness, in VCH list, 1908) and is doubtless common in suitable coastal and estuarine sites in the vice-county. — A. A. ALLEN.

THE DEATH'S HEAD HAWKMOTH: ACHERONTIA ATROPOS L. IN N. SOMERSET. — Two fully grown larvae of this moth were taken in a domestic garden at Hinton Charterhouse near Bath (VC.6) on 18th September 1984. One was feeding on potato haulm, whilst the other was dug up as it was beginning to pupate. — B. W. MOORE, F.R.E.S., Church Cottage, Church Lane, Batheaston, Bath.

AN UNUSUAL ABERRATION OF DIAPHORA MENDICA CLERCK IN HERTFORDSHIRE — I would like to report the capture of a most unusual male specimen of *D. mendica* (The Muslin) which, after comparison with the specimens housed at the British Museum of Natural History and discussion with D. Carter thereof, is best described as approaching aberration *rustica* Hb. The specimen was taken in one of our Harpenden light traps (Geescroft II, Site No. 99, O.S. Grid Ref. TL 131 127) on the night of 2/3 May, 1984 and was the only specimen of this species present in the catch for that night.

This pale buff-grey aberration is normally associated with Ireland, and its presence in England is therefore certainly worthy of note. — ADRIAN M. RILEY, Rothamsted Insect Survey, Entomology Department, Rothamsted Experimental Station, Harpenden, Herts.

FIRST AND SECOND SUPPLEMENTS TO THE BUTTERFLIES AND MOTHS OF THE ISLE OF MAN

By KENNETH G. M. BOND* and
Lt. Col. A. M. EMMET **

FIRST SUPPLEMENT

By K. G. M. BOND

Since publication of the catalogue of the Lepidoptera of the Isle of Man by Chalmers-Hunt (1970), Smith (1978) issued a list of species observed in the Island during a visit in 1977, which included five not previously recorded from there. In addition, Hedges (1981) added *Danaus plexippus* L. as new to Man. These and many other species are incorporated in the present account.

Methods

While the writer was resident on the Isle of Man, the Field Section of the Isle of Man Natural History and Antiquarian Society purchased a mercury vapour trap which was used at many different locations in all parts of the Island in the period 1971 to 1975. It was possible therefore to investigate the night-flying Lepidoptera of the north and centre of the Island on a fairly regular basis. As another m.v. trap has been in use at Ballakaghien, Castletown, since 1963, a comparison of the catches in various parts of the Island could be made. A Rothamsted trap has also been in use at Ballakaghien, and the availability of a further Rothamsted trap at Knock-e-Dhooney in the extreme north of the Island in 1974 provided further evidence of the difference to be encountered between catches at the northern and southern extremities.

In addition, many species have been added as a result of day-time visits to such areas as the Curraghs, characterised by willow carr, and the sandy northern coastal strip known as the Ayres.

Results

The richer fauna found in the north of the Island no doubt reflects the broader range of habitat found there. In particular, species associated with deciduous woodland, willow carr and sand dunes were found to be better represented in this part of the Island.

*24 Lislee Road, Douglas, Cork, Republic of Ireland.

** Labrey Cottage, Victoria Gardens, Saffron Walden, Essex, CB11 3AF.

It is therefore not surprising that most of the new records have come from this area.

Chalmers-Hunt (1970) listed 597 species as accepted without reserve for the Isle of Man. One of these, *Cnephasia octomaculana* Curtis, is here considered a synonym (Bradley, Tremewan & Smith, 1973). Another, *Serraca punctinalis* (Scopoli), is stated to have been based on a misidentification by Emmet below. Smith (*loc. cit.*) added five species, while Hedges (*loc. cit.*) added one. Fifty-five species are herewith added to the Manx list. In addition, eight which were considered by Chalmers-Hunt (*loc. cit.*) to be of doubtful status are now confirmed as Manx. Emmet below lists a further 50 species of microlepidoptera. This brings the total number of accepted species to 714. It should however be pointed out that no voucher specimens exist for some of the species added at the Rothamsted trap at Knock-e-Dhooney.

Unless otherwise indicated, all observations quoted are those of the writer.

Most of the macrolepidoptera are held at the Manx Museum, Douglas, Isle of Man. Voucher material of the microlepidoptera will also be deposited there.

Nomenclature and Classification

The nomenclature and classification used for the microlepidoptera is that of Bradley, Fletcher & Hall-Smith (1979-83), while Kloet & Hincks (1972) is used for the macrolepidoptera.

Abbreviations

*Species which were considered by Chalmers-Hunt (1970) to be of doubtful status on Man are preceded by an asterisk.

J.M.C.-H. = J. M. Chalmers-Hunt; H.N.M. = H. N. Michaelis.

Acknowledgements

I wish to thank the following for their invaluable and generous assistance with this work: The Rev. D. J. L. Agassiz, Dr. J. D. Bradley, Mr. A. Brindle, Mr. J. M. Chalmers-Hunt, Mr. Roy Cripps, Lt. Col. A. M. Emmet, Mr. D. S. Fletcher, Dr. L. S. Garrad of the Manx Museum, Mr. J. W. Hedges, the Martin family of Knock-e-Dhooney, Mr. H. N. Michaelis, and Mrs. Joan Nicklen of Rothamsted Experimental Station, Harpenden, Herts.

I would also like to express my thanks to the members of the Field Section of the Isle of Man Natural History and Antiquarian Society for the use of their mercury vapour trap, and to the many members of the Society and others who allowed me to use the trap on their property.

MICROPTERIGIDAE

Micropterix aureatella Scop.

Dhoon Glen, 12.VI.1981, female. South Barrule, one, 16.VI.1981.

NEPTICULIDAE

Ectoedemia occultella L.

Dhoon Glen, female, 12.VI.1981, genitalia checked. This species has also been reported by Emmet.

HELIOZELIDAE

Heliozela hammoniella Sorh. (*betulae* Staint.)

Dhoon Glen, male, 12.VI.1981, genitalia checked. Also reported by Emmet.

PSYCHIDAE

Diplodoma herminata Geoffr. (*marginipunctella* Steph.)

Ballaugh Curraghs, 30.VI.1977 (Smith, 1977).

TINEIDAE

Nemapogon cloacella Haw.

Ballaugh Curraghs, male, 10.VIII.1973, genitalia checked. Castletown, one, 16.VI.1981.

GRACILLARIIDAE

Caloptilia leucapennella Steph.

Greeba, one, m.v. trap, 28.IV.1972, det. H.N.M.

YPONOMEUTIDAE

Argyresthia laevigatella H.-S.

Tholt-y-Will Glen, 2.VII.1977 (Smith, 1977).

A. goedartella L.

Andreas, one, m.v. trap, 14.VIII.1971.

A. conjugella Zell.

Tholt-y-Will Glen, 2.VII.1977 (Smith, 1977).

A. pruniella Clerck

Curraghs (Lough Dhoo), 13.VII.1975, female, genitalia checked.

Yponomeuta evonymella L.

Ballachurry, St Judes, one, m.v. trap, 20.VII.1972, det. J.M.C.-H.
Ballaugh Curraghs, three, m.v. trap, 12.VIII.1975. Ballacross, St
Judes, one, m.v. trap, 13.VIII.1975.

Zelleria hepariella Staint.

Lower Foxdale, female, m.v. trap, 21.IX.1971. Determination
confirmed by J. D. Bradley.

Rhigognostis incarnatella Steud.

Ballavolley, Curraghs, one in m.v. trap, 30.VII.1983.

COLEOPHORIDAE

Coleophora albidella D. & S.

Ballaugh Curraghs, one, m.v. trap, 19.VII.1977. (Abdomen
missing, determination based on external features).

C. murinipennella Dup.

Curraghs, female, 31.V.1974, genitalia checked.

ELACHISTIDAE

Elachista obscurella Staint.

Knock-e-Dhooney, male Rothamsted trap, 28.V.1974. genitalia
checked. Slieau Whallion, male, 4.VI.1972, genitalia checked.
The Lhen, female, 18.VI.1979, genitalia checked.

E. rufocinerea Haw.

Ronaldsway, male, 19.IV.1972, det. J.M.C.-H., genitalia checked.

E. subalbidella Schläg.

Ballaugh Curraghs, male, m.v. trap, 17.VI.1979, genitalia
checked.

OECOPHORIDAE

Carcina quercana Fabr.

St Judes, one, 14.VIII.1972, det. J.M.C.-H. Ballachurry, one,
20.VIII.1972.

GELECHIIDAE

Xenolechia aethiops H. & W.

Cringle Great Park, one, 30.IV.1971, det. H.N.M. South Barrule,
about 30, 12.VI.1974. Cregneish, one, 18.VI.1974.

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AND JOURNAL OF VARIATION

(Founded by J. W. TUTT on 15th April 1890)

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Edited by J. M. CHALMERS-HUNT, F.R.E.S.

with the assistance of

A. A. ALLEN, B.SC., A.R.C.S.

P. J. CHANDLER, B.SC., F.R.E.S.

NEVILLE BIRKETT, M.A., M.B.

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HYPODRYAS INTERMEDIA MÉNÉTRIÈS IN EUROPE: AN ACCOUNT OF THE LIFE HISTORY

By Dr. C. J. LUCKENS*

The genus *Hypodryas*, part of the Euphydryine tribe, comprises four palaearctic and one nearctic species. A brief survey of the five members of this genus may demonstrate why, for various reasons, these are among the most interesting butterflies to be found in the Holarctic region.

The far north representative is *Hypodryas iduna* Dalman which occurs in damp areas with birch scrub, and south-facing hill slopes, in Arctic Russia and Scandinavia. It has a mysterious, discontinuous distribution because it is also found thousands of miles away from the Arctic in isolated areas in Asia — at around 1,800 metres, in the Altai and Sajan (ssp. *sajana* Bang-Haas); and even higher, at 2,700 metres, in the Caucasus — not inappropriately named ssp. *inexpectata* Sheljuzhko. The life history of *iduna* in the high Arctic is still imperfectly known, but larvae have been found in webs on *Veronica*, *Plantago*, and *Vaccinium*, and are described, with a photograph of a pupa case, in Henriksen and Kreutzer (1982).

Flying well above the tree line in the western part of its range, *Hypodryas cynthia* D. and S., is a butterfly of the high Alps. In the Eastern Austrian and Bavarian Alps however it occurs below 1,000 metres in a larger brighter form. Further east in the Balkans and in Macedonia it once again flies at high levels. The male of this species is a vivid, distinctive insect, very active in sunlight, but the female resembles the other members of *Hypodryas*. The latter in point of fact, could be confused with *H. intermedia* in the field, but where their ranges overlap the two species are usually separated spatially by at least 300 metres difference in altitude. *Cynthia* occasionally strays to lower levels and it is not inconceivable therefore that the two could sometimes be found flying together. The early stages of *cynthia* have been described, but I do not know of any records of rearing *ab. ovo*. In the light of the latter part of this paper it would be most interesting to know if anyone has actually done this.

Hypodryas gillettii Barnes (type locality: Yellowstone, Wyoming), is the solitary New World member of the genus. A fascinating relict species, it occurs locally in damp meadows and light riparian woodland, from Yellowstone Park, Wyoming, through the mountains of Montana and Northern Idaho, to Alberta in Canada. Its food plant is a honeysuckle, twinberry (*Lonicera involucrata*).

Very similar in appearance are the two palaearctic species, *Hypodryas maturna* L. and *Hypodryas intermedia* Ménétériès. The former is a lowland butterfly of damp forest clearings. Always local, it is now rare in its western range, but perhaps still occurs in the

*Swallowfield, Manor Road, Durley, Hants SO32AF.

woods east of Paris and in the Morvan, then eastwards through Lowland Europe, (including southern Fennoscandia), to the Altai mountains and Siberia. It has an intriguing life history; the females deposit on *Fraxinus* (ash), *Populus* species and perhaps *Lonicera*. The larvae feed on these *pabula* until the onset of winter, when they are said to make a hibernaculum among the leaves of the bush. This drops to the ground when the leaves fall and on emergence in the spring the young larvae commence feeding on various low growing plants such as plantain, Scabious and Veronica.

For many years *Hypodryas intermedia* was regarded as an Alpine sub-species of *Hypodryas maturna* as the two insects are strikingly similar. The genitalia differ however in minor but constant ways, and Higgins (1978) has pointed out the stability of these structures in each of the members of this group, in spite of their characteristic of localized colonies over a very wide range. *Hypodryas intermedia* has a remarkable disconnected distribution in the same fashion as *iduna*. It occurs in Korea and Kamchatka in the East, in the Altai and Sajan ranges in Mongolia and Asia, (one wonders if there is an overlap with *maturna* and *iduna* in the Altai) then, after an incredible gap of over 4,000 miles, *intermedia* has a narrow, localized distribution in the South Eastern Alps of Switzerland and Italy, just reaching Savoie in France.

This Western sub-species, *wolfensbergeri* Frey, the main subject of this paper, is perhaps most common in the Canton of Grisons in Switzerland and it was near Pontresina in early July 1979, in company with J. M. Chalmers-Hunt and T. W. Tolman, that I first encountered *intermedia*. The butterflies were found flying in sunny clearings within coniferous woodland, and also amongst *Alnus* scrub on sheltered hillsides near the upper limit of the trees. Colonies appeared mainly between 1,700 and 1,800 metres. The males flitted elusively around the bushes, occasionally settling on the sun-warmed rocks or bare ground. Only rarely were they seen feeding at flowers and then were invariably worn examples. Very few females were noted. One freshly emerged, was found by T. W. Tolman sitting in a small spruce tree. All sightings were between 11 a.m. and 3.15 p.m. (Swiss Time = BST).

Most text books on European butterflies either state that the life history and food plant of *intermedia* are unknown or else give hazy and conjectural information only.¹ Staudinger states however that *Hypodryas intermedia intermedia* larvae were found feeding on *Lonicera* at Vladivostock. This statement and also the fact that the closely related *H. gillettii* feeds on *Lonicera involucrata* in the American West, seemed to give a clue to the possible food plant of *H. intermedia wolfensbergeri* in Europe.

¹Rappaz (1979) reports "*Lonicera*" for *intermedia wolfensbergeri* in the Valais. Verity (1950) gives a variety of foodplants which seem to apply more to *maturna* than *intermedia*.

The glades and the hill slopes in the Val Roseg, Pontresina, where we found *intermedia*, had abundant growths of a bushy type of *Lonicera* — *Lonicera caerulea*. This was the plant I started to search when I returned with T. W. Tolman and my two elder sons to Pontresina in mid August 1980. It was an incredible piece of good fortune that a group of Euphydryine larvae presented itself to me on one of the very first of these *Lonicera* bushes that I investigated. These larvae were very small, ca. 4 to 5 mm by ca. 0.5 mm, and were probably in their second instar. They had spun a thin web over the tip of the *Lonicera* leaf. A thorough search was made in other sites where *intermedia* had flown the previous year, but entirely without success. This particular glade was bounded on the north side by a steep rocky slope with scattered birch and alder, and on the south by a belt of larch and spruce. The ground cover was of *Solidago*, *Geranium*, and various grasses. Clumps of the aforementioned *Lonicera caerulea* formed rather straggly bushes among the rocks. The larvae themselves at this stage were light buff in colour, with darker brown spines, and rather indefinite lateral stripes of darker brown. They resembled rather pale, variegated examples of the larva of *Euphydryas aurinia* Rott. at the same stage, and moved in the same sort of jerky way over their web.

The leaf spray was removed, with the web intact, and placed in an air-tight plastic box. In an attempt to reduce condensation this was kept in a cool place in the dark until after our return to England a few days later. Notwithstanding the lack of sunlight the larvae fed freely throughout on the fresh leaves of *Lonicera* offered to them. On returning home I caged them with my usual arrangement of metal hoops covered with stretched nylon (ladies 'tights' material) over a flower pot containing the growing food plant. This plant of *Lonicera caerulea* was quite small and was soon eaten up, but to my relief the larvae readily accepted ordinary British *Lonicera periclymenum*. During the last few days of August the larvae moulted *en masse* on the surface of the web. The shed larval skins were left *in situ* and the batch of caterpillars migrated to another area of the plant. At this stage (third instar) they had darkened in colour. The buff-brown colour remained and was particularly obvious on the centre of the dorsum, but the spines and lateral markings had become blackish-brown. They measured 6 mm in length by 0.7 mm in diameter. They fed less and less, then suddenly on September 15th, all except two or three disappeared. A careful search showed that they had secreted themselves about 7 cm from the surface of the ground in a small collection of dead *Lonicera* leaves, the centre of which was bound together by fairly robust web through which the larvae could just be seen. They were kept outside under the shelter of a large birch tree throughout the winter and the first larvae emerged to sun themselves in mid January of the following year.



There was a fairly high mortality at this stage. I estimated the original batch numbered about 50 to 60 examples and perhaps half of these died during the winter. Of the 30 or so that survived, some failed to feed and I brought two batches of six or seven individuals apiece inside during early February. These fed readily on *Lonicera periclymenum* and underwent ecdysis after three weeks, then entering the fourth instar. At this stage the larvae had started to look even more distinctive. The spines had become a glossy black, the dark stripes on either side of the dorsum and lateral parts of the body were also blackish. Size: Approximately 9 mm by 1.5 mm.

They continued to feed indoors on honeysuckle and moulted again after another three weeks. The fifth instar caterpillar was a handsome black spiny creature, with bright yellow markings. Each segment on the dorsum had two yellow spots, then a black area, then posteriorly a large yellow mark. The black spines arose from a broad black line and below this there were rather duller yellow spots around the level of the spiracles. The forelegs were black whereas clasper and rear set of legs were purplish brown. Size: 15 mm by 2 mm. The batches of larvae brought inside reached this stage in late April and there were six in all.

After this fourth moult these six refused all food. Room temperature was increased slightly and they were exposed to as much sunlight as possible and even offered different food plants, such as plantain and scabious, as well as the two *Lonicera* species they had formerly fed on, all to no avail. As the temperature was increased they became more and more restless and eventually died.

The larvae that had been kept outside took until late May/early June to reach the same stage (fifth instar) and there were approximately 15 in this batch. To my despair these also fed in a very desultory way, if at all, after the fourth moult. They congregated in little groups of two or three in shady places, usually under dead leaves, or in folds of the netting, and gradually became more and more immobile in spite of the increasing heat and lengthening days of summer. This phenomenon occasionally happens when *Euphydryas aurinia* larvae are kept in crowded conditions after hibernation, and in these cases the larva remain until the Autumn in a state of diapause and then die. I had already tried forcing with notable lack of success, and there was certainly no problem with over-crowding. I therefore transferred the cage to a shadier place and left the remaining larvae to their own devices.

LEGEND TO FIGURES (OPPOSITE)

Hypodryas intermedia Men. Fig. 1, ♀, ex larva, Val Roseg, Pontresina. Fig. 2, 5th instar larva, just before 2nd diapause. Fig. 3, final instar larva. Fig. 4, final instar larva. Fig. 5, pupa. Photos. C. J. Luckens. Scale (approx.): Fig. 1, x 0.75. Fig. 2, x 3. Figs. 3, 4, x 1.75. Fig. 5, x 2.25.

Eventually all 15 sought out rolled-up beech leaves which I had hastily provided, and in twos and threes, settled down in these tube-like shelters which they partially sealed with silken strands. A single larva emerged in late August and recommenced feeding for a day or two, but then went once again to one of the leaf hideouts. The rest remained immobile throughout the summer and a brief look in November revealed at least 11 healthy looking larva.

Just before we moved house in late January 1982, I inspected the cage, which had been left out in the open throughout the cold winter of 1981/82. It was a cold but sunny day and somewhat to my surprise I saw that four larvae were out of their winter quarters and were sunning themselves on dead leaves. The small *Lonicera caerulea* plant was not in leaf, but I found some partially open leaf buds of *Lonicera periclymenum* and inserted these twigs in the earth of the pot, just in case the larvae were ready to feed. I did not see more than four larvae at any time after their second hibernation and after a very rainy spell in early February this number dwindled to two. Their appearances were very sporadic until late February, and I am not altogether sure whether or not they underwent a moult at this time. On March 1st I noticed the first signs of feeding — on the leaf buds of the native food plant. Both larvae fed regularly during the rest of March, and one, noticeably larger than the other, became immobile on the last day of the month, completing its moult on April 2nd. Thereafter this individual grew rapidly and quickly stripped the small plant of *Lonicera caerulea*. It was transferred to another cage with a large plant of *L. periclymenum*.

The full grown larva was approximately 34 to 35 mm in length by 4 to 5 mm in diameter. Along the side and back were black markings from which four rows of glossy spines emerged. Around the spiracles and along the dorsum the larva was marked with heavy golden dots and blotches. The claspers and hind legs were pale purplish brown and the forelegs black.

On April 20th one larva started spinning a pad of silk on the netting of the cage and by the next day had suspended for pupation. I was alarmed to see, that evening, that it appeared to have fallen from its silken pad, but the following day it apparently started the spinning process again (slightly to one side of the previous site), and this time suspended itself safely completing pupation on April 24th. The other smaller larva underwent its final moult on the same day and pupated on May 11th.

The pupa of *intermedia* is similar to that of *Euphydryas aurinia* but is longer and slightly greyer in appearance. It is whitish buff in colour with a line of black markings along the side, spotted black and orange on the abdominal segments. The wing cases are slightly paler and have a pattern of black markings somewhat heavier than that of *aurinia*. The first pupa showed signs of darkening on May 19th and emerged on May 22nd precisely four weeks after pupation.

The other had a much shorter period of pupation (ca 1½ weeks) emerging on May 29th. Both were females.

Two main points emerged from this experiment: (1) Though the larvae preferred their native *Lonicera caerulea* they would really eat *Lonicera periclymenum* at all stages of their development. (2) Persistence of biennial life cycle. In spite of the vagaries of its weather, Southern England has a generally warmer climate and a more protracted "growing season" than that of the sub Alpine levels that *intermedia* frequents.² In spite of these very different conditions compared to those of their natural habitat the larvae persisted in going into diapause after the 4th moult, even when daylight hours and warmth were increasing. Attempts to force development artificially resulted in death. This suggests a deeply ingrained biological habit of the two year life cycle.

In view of these findings it would be most interesting to compare the life cycle of *intermedia* with those of its congeners, *H. cynthia* and *H. iduna*; both of which are exposed to an even shorter "growing season". It would be surprising indeed, if these closely related species did not share this biennial habit also, and that is something I very much hope to investigate over the next few seasons.

The closely-related lowland *maturna* is of primary interest however. By good fortune my friend Harold Short was rearing *maturna* of German origin during the two years I was engaged on *intermedia*. I was able to compare the larvae and was struck by the great similarity between the two species. The larval markings seemed virtually identical in pattern although the warm, golden-yellow patches in *intermedia* were perhaps slightly brighter than the more lemon-yellow shade of *maturna*. These *maturna* larvae were also reared throughout on *Lonicera periclymenum*. It was interesting to hear that several of Harold Short's *maturna* went into diapause at around the fourth or fifth instar, in late spring, and refused further food. Unfortunately these particular examples all perished during their second winter. Short's supplier in Germany informed him that these *maturna* larvae occasionally survived a second hibernation, but when this did happen the imagines nearly always proved to be female. As *Hypodryas maturna* is becoming so scarce in Western Europe a thorough investigation into its ecology and life history would seem a priority.

²As far as I could ascertain from enquiries among the local people at Pontresina, Val Roseg is rarely free of snow before early May. Thus there are four clear months before the onset of autumn which the larvae could use for feeding after the first hibernation. After the second hibernation, the larvae again emerging from diapause after the snows melt in May, would have only 2½ to 3 months to feed up, pupate and produce imagines in July, which is the usual flight period of *intermedia* in this area. This, in fact was almost exactly the time pattern followed by the *intermedia* when reared in S. England.

Summary

Probable second instar larvae of *H. intermedia* were found feeding on *Lonicera caerulea* in Eastern Switzerland in mid-August 1980. These were reared in Southern England, and took two years to reach the imaginal state; this biennial life cycle being maintained in spite of attempts at forcing. Larvae (at various stages) and pupa are described. Two female *intermedia* imagines were obtained.

Acknowledgements

I am indebted to the following lepidopterists for their help and encouragement in a variety of ways: T. Bernhard, R. F. Bretherton, J. M. Chalmers-Hunt, N. J. Derry, Dr. L. G. Higgins and Dr. T. W. Tolman. I would also like to thank my wife, Carola, who as usual had the task of refining the text and eliminating grammatical errors, and Mrs F. Moffat for once again typing the manuscript. Finally, I am most grateful to the Entomological Club whose generous grant made the colour plate possible.

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THE WHITE ADMIRAL: LADOGA CAMILLA L. NEW TO BRECONSHIRE. — Three White Admirals were recorded near Crickhowell last July, two of them at a spot beside the river Grwyne. Of these, one was noted by my daughter Sarah, on the 26th, and two by her and my wife on the morning of the 27th, one of which I was able to observe later that day and fully identify.

The third specimen was noted, on the 22nd, at a locality between Crickhowell and Llangynidr by the mother and sister of Mr. M. Porter the Breconshire Nature Trust's Botanical Recorder, who were able to provide conclusive proof of identity. — J. P. SANKEY-BARKER, Plas Llangattock, Crickhowell, Poweys NP8 1PA, 18.i.1985.

MYTHIMNA OBSOLETA HBN.: OBSCURE WAINSCOT AND CHILODES MARITIMUS TAUSCH.: SILKY WAINSCOT IN N. LANCs (V.C. 60) AND S. WESTMORLAND (V.C. 69) IN 1983-84. — At approx. 3.30 a.m. B.S.T. on June 21 1984 I boxed a male *Mythimna obsoleta* on my house wall near to the m.v. trap. The only other *M. obsoleta* I have taken was 27 years ago, at Skipwith Common, Yorkshire, where the late C. R. Haxby and myself were operating a m.v. light trap, and which constituted the first record of this species for Yorkshire. I can find no previous record of *obsoleta* for Cumbria, nor is it shown to occur so far north on the distribution map in Heath *et al.*, *Moths and Butterflies of Great Britain and Ireland*. I also took at Beetham a male *Chilodes maritimus* resting outside the light trap, in the early hours of July 9 1984. Two *C. maritimus* were caught in 1983 only two miles west of here (see *Ent. Rec.* **96**: 221) in N. Lancs (V.C.60), and one was found dead in 1982 at Leighton Moss, and later exhibited at the Lancs. & Cheshire Ent. & Nat. Hist. Soc. The N. Lancs specimens were all ab. *bipunctata* Haw., whereas the Beetham specimen is a typical male.

Despite continuous light trapping in these areas since 1970, with Rothamsted and other m.v. traps, neither of these two species have been recorded until recently. Mr. Ernest E. Emmett of Lancaster showed me a specimen of *M. obsoleta* which he took in N. Lancs SD47, also in 1984. — J. BRIGGS, 5 Deepdale Close, Slackhead, Beetham, nr. Milnthorpe, Cumbria LA7 7AY.

REMINISCENCES OF AN ELDERLY ENTOMOLOGIST

By R. P. DEMUTH*

(Continued from Vo. 97, p.19)

I paid three more visits to Unst, the next two being in the period when my diary lapsed as I had belatedly discovered that young ladies were at least as interesting as moths and so I have nothing to go on but my memory. The first of these was the one with Arnold Hughes which I have already mentioned. Arnold was a keen Lancashire collector and then moved to Surrey. Unst finished him off and he never collected again. Next time I went, I went with a fisherman and this worked very well as we would drive over together from Baltasound to Burra Firth and I would collect all night and he with his ghillie would row up and down the Firth trawling for sea trout. I went with him once and it was quite exciting as the difficulty was not the catching of the fish but the getting of the fish into the boat without a seal getting it first. The ghillie, name of Abernethy, took a shotgun with him and any seal investigating with its head above water got a warning shot but we often landed bits of fish or no fish at all. All true Britons now love seals but I do not. My friend did however land one specimen sea trout intact and we waited at the Abernethy cottage for sufficient daylight to take its photograph but when the time was right the Abernethy cat had eaten off its tail! Abernethy had watched well-to-do southerners coming all the way to Unst to catch some rare moth and it occurred to him that if he could catch this moth and post it down to London he might be into a gold mine, anyhow more of a gold mine than rowing fishermen up and down the Firth all night. The only trouble was that of all the quantity of moths around he did not know which was the treasured one and he was always suggesting he should join me on my rounds and I, not liking the idea at all, would tell him I was in too much of a hurry to take him with me. In exasperation he shouted "Mr. Demuth is always in a hurry. He was born in a hurry!" Meanwhile Mrs. Abernethy would knit the most superb Fair Isle jerseys.

My diary begins again in 1946 when I left the Navy and in 1947 I paid my last Unst visit. I met Alfred Hedges at Findhorn for some preliminary collecting and then went on alone. (Hedges was a brewer and lived then in the Isle of Man. He was a fine entomologist and had a collection of the highest quality with every specimen in superb condition.) On August 5 we had an interesting night on the Culbin Sands where we sugared birch and pine. On the first round sugar was blank with a few moths on ragwort. It then began to rain hard with a strong wind from the N.W. On the next

*Watercombe House, Waterlane, Oakridge, Stroud, Glos. GL6 7PN.

round moths were on sugar in numbers in the pouring rain and they continued to come until 1 am. *Depuncta* and *paleacea* were just coming out.

I arrived on Unst on August 8 and stayed at Ordaal, a long way round on the south side of the Baltasound inlet and not so conveniently placed as the Nord Hotel which had been long since closed. I at once went to see Robbie Mouat the postman, a delightful man and a natural naturalist and asked him about wild parsley for *templi* larvae. He said he had plenty in his garden and in a space which could be covered by a large bath towel I dug up 60 pupae in 20 minutes. They were so common that a spade full of earth might contain six pupae. I had hoped that the moth would be dark or somehow different but when they emerged they hardly differed from the normal. Next day I collected *consersa* larvae from the maritime campion growing on the shingle at Haroldswick. They were so common that I found it difficult to find any intact campion heads to take back to feed them on. Unlike the *templi* these produced a fine series of the dark Shetland form, many without any light markings. The insect that pleased me most was *cursoria* and for these I went to the sands at the head of Burra Firth. My diary: "*Cursoria* in every sort of variety was abundant on the sands though unfortunately almost over and only one in ten a setable insect. Some of the forms were as lovely as any I have ever seen. There was a strong wind and consequently they would not settle on the sheet but I find the way to get them is to walk slowly across the sands with the lamp shining on the ground when *cursoria*, mostly females busy egg-laying, will come running and fluttering along the sand towards the light. On trying to box them they roll up and half bury themselves in the sand and I think this is what they do in the daytime, hence the speed with which they remove their scales. I also think the eggs are probably laid in the sand."

Glareosa var. *edda* was, after *graminis*, the commonest insect and at light on a small heath near Ordaal I reckon to have attracted about 200 *graminis* and 100 *glareosa* all in prime condition and all *edda* except for one normal grey one. Later on this expedition at Spiggie at the extreme south of the mainland of Shetland my diary reads "a good few *glareosa*, all grey, saw no var. *edda* at all. Odd!" It was this oddness which attracted Bernard Kettlewell's attention and led to his expeditions to Shetland and a very detailed paper on *edda* and the conclusion that the extra light during the night period on Unst enabled the all night flying Common Gulls to pick off the grey *glareosa* so that only the dark *edda* survived through natural selection.

The west coast of Unst is high precipitous cliff and quite uninhabited and I spent a night there with my petrol lamp and sheet perched on a cliff ledge and took very striking and large forms of *xanthographa*, also *furva* commonly and *templi* just coming out on

August 17th, six weeks earlier than one might expect it in the south. My diary reads "Marvellous view and endless chattering, grunting and mewing from sea birds, seals, otters."

On this Unst expedition I had hired a car and the island was suffering an exceptional drought so that the peat hag was as hard as brick and I could drive the car to places which in a wet year it would be impossible to reach. I drove the car well off the road one night and parked it so that the headlights shone down on to the ground to see what would be attracted. Someone passing saw it and reported to the Island policeman "a car right off the road with its nose in a ditch. The driver must be dead or badly injured as he hasn't switched off his headlights." Out bicycled the policeman to find a busy lepidopterist at work and we both laughed at the report. Next night I was at Burra Firth (the *cursoria* expedition) and I was seen from the lighthouse shore station slowly walking back and forth with my bright light. "Someone with a bright light poaching salmon" and out came the policeman on his bicycle and after a seven mile ride not so pleased to see me. "Please sir tell me where you are going each night." I followed this good advice as next night I was on the cliffs of the west coast and my light was seen from the neighbouring island of Yell where no light had ever been seen before. Our policeman was again alerted: "Bright light half-way down the cliff near Petaster. Think there must be a wreck. Shall we call out the lifeboat?" Our policeman did not tell me his reply. For the lifeboat to have appeared below me crewed by eight lusty men of Shetland could have been an encounter I would have preferred to avoid. I might mention that on August 16th I collected under the aurora borealis which dimmed the value of my light. It was uncanny and impressive. Great beams of light like searchlights appearing over the northern horizon, getting brighter, flickering, fading, getting brighter again. I had no idea the aurora showed itself so early in the autumn.

While still on the subject of the police I will mention another encounter. I had my light on a remote part of the Culbin Sands miles from anywhere. It was a pitch dark night with no stars. Nevertheless my light was spotted. Probably a crashed aeroplane! About midnight two policemen arrived from Forres. They had walked a long way but were interested and amused by what they found. After about half an hour one said "It's getting cold so we will be off to bed." After another half hour there they were back again, not so cold but not so amused either. It is perfectly simple to walk across the Culbin Sands towards a light but equally impossible with no other landmarks to walk a straight course away from it. They had to wait with me until dawn.

Earlier in that summer (1947) I had been to Folkestone to see Morley, surely the most delightful of all entomologists of that generation. He had been in charge of education in Palestine and had retired to Folkestone and there at Christchurch in Sandgate Road

was the then famous "Morley's Wall". It was famous for the wide variety of *perla* which sat on it from almost black to yellow/brown. On July 19 I saw one blackish (but not extreme) form and three yellow/browns out of about 25 all told. Interesting if they still exist?

I had been in contact with Morley earlier in 1947 when I had found *ononaria* in numbers at Sandwich in Kent. I had previously taken a single *ononaria* before the war on Dungeness which my diary refers to as 'my rarest moth'. My diary: 'June 20 (1947). In the evening on the stretch of sand dune just south of the Princes Links Club House, Sandwich. Dense drizzle all the evening but warm and dark. Sugared marram but all the sugar was washed off. A few *ripae* of the local brownish grey form, also *albicolon* and other common insects. First insect at light was *ononaria*, followed by about 20 others in quick succession and many more sitting on grass stems, in fact I began to doubt my identification, but I was quite right and was the discoverer of one of our rarest moths in great abundance. Other insects at light were *pygmaeola* in some numbers, *octogessima* and *villica*. I counted over 20 *porcellus* sitting on strands of barbed wire near patches of bedstraw. No doubt the soaking wet herbage had encouraged them to rest on something drier."

I have no doubt that the war had caused the upsurge in *ononaria*. In normal times this stretch of sand dunes is trodden flat by thousands of holidaymakers' feet. During the war it was completely out of bounds and a huge anti-tank defence scaffolding had been erected along the whole length of this coast and interwoven with barbed wire and the weak growth of restharrow and other plants had luxuriated over the backs of the sand dunes in an unbroken mass.

Next day, I took the *ononaria* to show Morley and he jumped into my car and we returned to Sandwich.

June 21. In the afternoon Morley and I walked about the same spot (Sandwich). In less than an hour we caught and examined over 40 *ononaria* looking for colour variations. He kept a lovely pink one but we released most of them. *Ononaria* flies gently in the sun but is not so easy to disturb when the sun is in. It sits on grass blades in an inverted position. The correct type of locality requires restharrow growing in combination with longish grass and some shelter. On August 30th I was at Sandwich again and the second brood was out but in poor condition. My diary reads that they are much paler than the first brood but this may be due to their poor condition. Kettlewell and I dealt with the larvae next year. My diary May 30 (1948) reads "We went to Sandwich to look for *ononaria* larvae in the place where I had found the moth last year. We got about 60 in two hours. It was sunny and they were feeding on the tops of the sprays of restharrow, but they are the same colour as the leaves and not easy to see. They bite off the top

of the shoot and this drops off and gives the show away. They varied from half to full grown but we met a young fellow from Canterbury there and he told us that 50% had pupated and Bernard found one pupa.

Easter was early in 1948 and I spent it at Rannoch. Rannoch was the original locality for *nubeculosa* but it appeared to have died out until a specimen was found in the power station north-west of the lake the previous spring. The Rannoch specimens were said to be lighter coloured than the Aviemore ones and I thought it worth investigating. I spent the first day fruitlessly examining birch trunks on the south of the lake and the morning of the second day on the north side. Then as I drove along a half mile east of Killichonan I spotted a pair on a telegraph pole and that was the place and they were on the tree trunks all around. My diary concludes that this insect requires old trees with roots in dry ground and in a position fully exposed to the sun.

On May 15 I was back at Rannoch (how one did get about in those days and still earn one's living in London). I climbed Meall Dearg for *alpicola* and got 25, the majority of larvae on the point of pupating. There was a drought and the lichen under which they pupated was very dry and sharp and this cut and killed another ten. *Melanopa* was in some numbers flying about in the sun and crawling over plants and stones. Years ago, before the war, Cockayne had told me how to get *melanopa*. You collected branches of bearberry in full flower from the high ground south of Loch Rannoch and you took them to the Rannoch to Dalchalloch road where it crosses the high saddle and you put them in little neat piles in the middle of the road when the sun was shining and *melanopa* would arrive and go to the flowers in the centre of the bunch and all you needed to do was to put your net over each bunch in turn. I did this in 1936 and it worked beautifully. The road is now B847 with in summer a car every few minutes. In 1936 I cannot remember a single car disturbed my neat little piles!

(To be continued)

SCOPULA RUBIGINATA HUFN.: TAWNY WAVE IN CORNWALL. — Two specimens of this insect were attracted to my m/v light at the Lizard, August 22nd., 1984. I have been unable to trace any previous record of this moth for Cornwall, although R. South (The Moths of the British Isles, 1908) mentions a casual specimen taken in the Newton Abbot district of S. Devon, 1902. The two Lizard specimens, undoubtedly immigrants, arrived on a night noted for vast numbers of *Plusia gamma* L. which fortunately settled on the illuminated rock face rather than enter the trap. — B. K. WEST, 36 Briar Road, Bexley, Kent.

CORRIGENDUM. — Vol. 96 (Nov.-Dec. 1984) p. 243, line 12: for 'P. J. Hammond' read 'P. M. Hammond'.

ARCHIPS ARGYROSPILA WALKER
(LEP.: TORTRICIDAE):
A SPECIES NEW TO BRITAIN

By M. J. STERLING* and P. STERLING**

On the 29th of April 1984, Mr. Brian Statham was contacted by the manager of a florists shop in Matlock, Derbyshire, (VC57) and informed of a moth which was flying round the premises. The specimen was captured and passed on to MJS. Being unable to do any better than "large foreign Tortricid", it was passed on to the British Museum of Natural History by MJS for identification and has been determined by Dr. J. D. Bradley as *Archips argyrosbila* Walker.



The following information has been given to us by Dr. Bradley. The species is a native of the USA where it is commonly known as the Fruit Tree Leaf Roller. The larva feeds predominantly on Apple and Cherry and sometimes causes severe foliage and fruit-scar damage; it also feeds on Hawthorn and Oak and is probably mildly polyphagous. The species has various forms or "ecological" races and as the specimen from Matlock is a female with dark hindwings it probably originated from the eastern States.

Given that the species occurs at similar latitudes to our own, it could perhaps be found breeding in this country as a result of further imports and should not necessarily be dismissed, if found, as an accidental introduction. We are, however, convinced that in the circumstances the Matlock specimen must have been an import.

As there seems to be no mention of this species in previous British literature we have made the following description of the Matlock specimen. Female. Wingspan 19mm. Head greyish-brown, collar pale ochreous; antennae and prolegs greyish-brown, palps

*Dept. of Law, University Park, Nottingham.

**Dept. of Agriculture and Forest Sciences, Commonwealth Forestry Institute, South Parks Road, Oxford.

straight and very short, greyish-brown. Thorax purplish-brown with some whitish scales on the metathoracic segment. Forewing ground colour whitish, densely irrorated purplish-brown except towards costa, giving the appearance of a broad white band running along the costa, except where it is interrupted by fasciae (see below). Three more or less defined dark brown fasciae running obliquely and distally from costa narrowing towards but reaching dorsum; first towards base; second before $\frac{1}{2}$; third at $\frac{3}{4}$. Pre-tornal blotch dark brown. Forewing cilia grey. Hindwings grey, cilia pale ochreous.

The specimen is to be presented, in accordance with the wishes of the captor, to the Derbyshire Entomological Society reference collection.

Acknowledgements

For determining the specimen we are grateful to Dr. J. D. Bradley. For the photograph of the specimen figured we thank Mr. B. Case, Dept. of Biology, Photographic Unit, University of Nottingham. We also wish to thank the manager of "Fleur", florists of Matlock, Derbyshire.

RED-NECKED FOOTMAN: *ATOLMIS RUBRICOLLIS* L. IN ESSEX. — At Ingrave (TQ 6292) on 2.vi. 1976, my son Rory found a moth unfamiliar to him which proved to be the Red-necked Footman. The species had not been recorded from Essex since 1952, in which year Mr. A. J. Dewick took it near Bradwell-on-Sea, according to Firmin *et al.*, *Guide to the Butterflies and Moths of Essex*, p. 48. — I. McCLENAGHAN, 20 St. Nicholas Grove, Ingrave, Brentwood, Essex CM13 3RA.

COLIAS CROCEUS GEOF. IN S. E. LONDON, 1983. — Although not myself fortunate enough to catch a glimpse of the Clouded Yellow in my home district (evocative of summer holidays on the south coast in one's youth) following its great invasion last year, I have since been informed that it was repeatedly seen, sometimes even in good numbers, in a small field of lucerne, etc., at Kidbrooke, owned by a Greenwich wildlife conservation group. Less surprisingly, it was noted also farther east in Thamesmead. I kept a frequent look-out on Woolwich Common where clovers and other legumes abound but lucerne is absent. Evidently the latter exerts an attraction so potent as to prevent the butterflies from wandering far afield, even where isolated in a relatively small area. All the same, it does seem a little strange that in my various sorties around Charlton, only two miles from the field at Kidbrooke, I was not favoured with a single sighting. — A. A. ALLEN, 16.ix.84.

ENTOMOLOGICAL FORAYS IN FRANCE, 1983

By B. GOATER*

My wife and I made our first excursion to France this year on 8th April. Our habit is to cross to Boulogne and drive hard to a charming spot in the Forêt de Hez (Oise), to the east of Paris, where we spend the first night. Early next morning we drove on to the Rhône valley, through warm drizzle which later gave way to hazy sunshine. We stopped for a picnic lunch beside a pinewood devastated by processionaries (*Thaumetopoea pityocampa* D. & S.). The snake-like processions were common on the road and we kept a few which gave us acute urticarial rash. In the same area, *Nymphalis polychloros* L. was seen at blackthorn flowers; later in the day, we saw *N. antiopa* L. and *Inachis io* L. on the wing. The night was spent in a calcareous quarry above the west bank of the Rhône in the Ardèche, opposite the elegant town of Valence. About 50 species of moth were recorded at light. The commonest was the large spring form of *Epimecia ustula* Freyer in very fresh condition, a species I had not encountered before. Other notable captures included three *Dasycampa rubiginea* D. & S. and two *D. erythrocephala* D. & S., both species giving eggs from which good series were subsequently bred, a dark female *Lithophane socia* Hufn. which also yielded a bred series, the common *Orthosia* spp. including the only *O. populeti* Fabr. I have seen in France, *Panolis flammea* D. & S., *Mythimna sicula scirpi* Dup., *Valeria jaspidea* de Vill., *Actinotia hyperici* D. & S., the silver grey form of *Egira conspiciellaris* L., *Stegania trimaculata* de Vill., *Eupithecia oxycedrata* Rambur in quantity, *E. innotata* Hufn. and *Cyclophora suppunctaria* Zell.

In 1982, I took a short series of the local agrotid, *Agrotis turatii* Standfuss on the hills above la Voulte (Ardèche), and one of the main objectives in 1983 was to extend the series. We made two attempts, on 10th and 20th April, and failed both times. Judging by the other species present, we were too early in a season which was quite as retarded on the Continent as it was in Britain. Beating the junipers yielded half grown larvae of *Pachypasa limosa* Serres: two were diseased, but I bred a male and a female. On spruce we obtained larvae of *Thera britannica* Turner, *Hylaea fasciaria* L. including f. *prasinaria* D. & S., and *Puengeleria capreolaria* D. & S. Larvae of *Cymbalophora pudica* Esp. were common at night on grass.

The weather became extremely windy as we drove down into Provence. In 1982, at Digne, I found many workings of *Paranthrene tabaniformis* Rott. in stems of sea buckthorn (*Hippophae rhamnoides* L.) and bred one moth. This year there were none. The nights were bitterly cold and we recorded nothing of note until the 13th, when

*22 Reddings Avenue, Bushey, Hertfordshire, WD2 3PB.

we found a strong colony of the brilliant geometer, *Eurranthia plum-mistraria* de Vill. flying by day in bright sunshine at Pic de la Gardiette (Var). The speedy pyrale, *Titanio pollinalis* D. & S. was also present but difficult to catch. At night there, in clear, cool but reasonably still conditions *Nola subchlamydula* Staud. came commonly to light. Among the two dozen other species were some worn male *Cerastis faceta* Treits., *Eupithecia cocciferata* Mill. and *Rhoptria asperaria* Hubn.

The Mediterranean coast of France is all but ruined and it is extremely difficult to find workable habitat. We discovered a promising area at St. Aygulf near Frejus and were very disappointed when the night turned bitterly cold and almost nothing flew. We had to be content with some very grey *Orthosia gracilis* D. & S. and one *Dicranura (Exaereta) ulmi* D. & S.

On 16th we called on M. and Mme. Dujardin in Nice who treated us with the utmost kindness whilst supersaturating my mind with French entomological lore. Afterwards we were taken to the limestone hills above Vence whence we looked down on the twinkling lights of the conurbation along the coast, and set up our lamps in what was clearly a magnificent locality. By far the commonest moth on this occasion was *Valeria oleagina* D. & S., but it is really only in the S. E. corner of France and a most unlikely species to turn up in Richmond Park! The other interesting species was *D. rubiginea*, and in this locality it is very variable. Females were obtained and moths bred. It was astonishing to me to find it on these limestone hills, such a different habitat from the sandy, acid pine heaths of Surrey and Hampshire. We set up the next night lower down the hill, opposite a stone wall which is evidently known to all, entomologist or not, as the 'Mur de Boursin'. At last we enjoyed mild conditions and the number of species recorded rose accordingly. *Dyscia lentiscaria* Donzel was quite common, I took a fine fresh *Eublemma ostrina* Hubn., but probably the best insect was a male *Endromis versicolora* L. of the large, richly coloured subsp. *meridionalis* Rougeot, well south of its usual range.

Up in the Alps at this time of year fly three interesting species, the arctiid *Ocnogyna parasita* Hubn. and the noctuids *Perigrapha i-cinctum* D. & S. and *Dasypolia ferdinandi* Ruhl. They are known to fly over the snow and sometimes get frozen into it. Thus we were to spend the next two nights in sheer misery, standing on the snow at 1800m. beside the lamp, the first night in heavy rain and the second in paralysing cold. We failed to see any of these moths, but on the first night there was an extraordinary migration of thousands of *Agrotis ipsilon* Hufn., with a few *Autographa gamma* L., *Agrotis segetum* D. & S., *Mythimna vitellina* Hybn. and a cloud of *Plutella xylostella* L. The best moth was a single *Hypena obesalis* Treits.

The weather was still bad as we began our journey home, and there was abundant evidence in the centre of France of recent

devastating storms, with whole forests of young trees with their trunks smashed. We broke our journey in the Fôret de Tronçais (Allier), in which males of *Aglia tau* L. were disporting themselves among the beeches. Light produced *D. erythrocephala* ab. *glabra* Hubn. which duly laid, but very little else.

Summer was quite different. We set off on 27 July and had a fortnight of glorious weather, with an abundance of insect life wherever we went. On the first night, in the Forêt de Hez, *Callopietria juvenina* Stoll was the commonest moth, and the 68 other species recorded included the notodontids *Drymonia* (*Ochrostigma*) *melagona* Borkh., *Notodonta torva* Hubn. (10) and *Gluphisia crenata* Esp., several *Palaeodrepana harpagula* Esp., a female *Heterogenea asella* D. & S., some of the small summer brood of *Plagodis pulveraria* L., three *Cryphia algae* Fabr., *Trisateles emortualis* D. & S. and a good many worn *Herminia lunalis* Scop.

The next night we chose the edge of a young oak wood on rolling limestone country south of Auxerre (Yonne) and had a spectacular catch of nearly a hundred species. Both *Catocala sponsa* L. and *C. promissa* D. & S. appeared at sugar and *Ephesia fulminea* Scop. came to light. So did *Dendrolimus pini* L., *Odonestis pruni* L., *Drepana curvatula* Borkh., some more *D. melagona*, several *Malacosoma castrensis* which one associates with salterns in Britain, *Meganola albula* D. & S., several *Scopula nigropunctata* Hufn., *Scotopteryx moeniata* Scop., *Horisme aquata* Hubn. Among the noctuids were *Acronicta strigosa* D. & S., *A. auricoma* D. & S., *A. alni* L., several *Polyphaenis sericata* Esp. past their best, *Heliothis virespalla* Hufn., *Emmelia trabealis* Scop. and *Paracolax derivalis* Hubn.

Our next destination was the Marais de Cormaranche (Ain) and the particular objective *Paradiarsia punicea* Hubn. which we failed to find. However, over 75 species put in an appearance including *Epione repandaria* Hufn. and *E. paralellaria* D. & S., *Eilema lutarella* L., *Herminia tarsicrinalis* Knoch, *Polychrisia moneta* Fabr., *Autographa bractea* D. & S., dark *Mamestra suasa* D. & S. and many common English species.

30th July quickly became hot and sunny, and soon after setting forth I saw my first apollo, a grand sight. There were many species of butterfly in the subalpine meadows of the Ain which we enjoyed with out wishing to catch them or study them critically. We came across a colony of *Zygaena carniolica* Scop., most of the moths resting on scabious heads. We were tempted to try a night op. in attractive countryside at Col de la Lebe and were rewarded with a single fresh *Amphipyra perflua* Fabr., a rarity in France and recorded, as far as I can gather, only in the department of the Ain. The *Berberis* bushes were evidently the source of several *Paraeulype berberata* D. & S. and our first *Auchmis detersa* Esp., the latter rather worn. *Puengeleria capreolaria* and *Peribatodes secundaria* Esp. came from the spruce woods.

The next day found us in the Alps at last, and we explored the contry of the Savoie between Valloire and Col du Galibier. By day, *Crocota lutearia* Fabr. and *Perizoma verberata* Scop. were freely disturbed from long vegetation beside the river near Valloire, but we settled for the night higher up at about 2400m. and experienced a foray in which almost everything was new to our eyes. Large numbers of the big noctuids *Apamea zeta* Treits., *A. lateritia* Hufn. and *Rhyacia helvetina* Boisd. dominated the sheet, among them *Chersotis cuprea* D. & S., *C. ocellina* D. & S., *C. larixia* Guen. and one *C. andereggii* Boisd., *Ochropleura celsicola* Bellier, *Hada proxima* Hubn., in some numbers, five *Euchalcia variabilis* Pill. & Mitt., several *Agrotis simplonia* Geyer, *Rhyacia grisescens* Fabr., *Lemonia taraxaci* D. & S., *Perizoma obsoletaria* H.-S., *Aplocera praeformata* Hubn. and *A. simplicata* Treits. We retired, intoxicated, to bed — very late.

In the morning we walked locally amid flowery rock gardens in sunshine; butterflies were plentiful, including several species of small fritillary and *Colias phicomone* Esp. We netted three *Pygmaena fusca* Thunb., *Scopula immorata* L., *Idaea flaveolaria* Hubn., *Setina aurita ramosa* Fabr. and several species of *Zygaena*. My wife found a female *Malacosoma alpicola* Staud. at rest on vegetation, and shortly after midday I noticed a small dark moth flying low over the turf before shooting off at great speed. In a minute or so, it or another was back and I netted it — a male *alpicola*. By lying on the ground at this spot and pouncing as they arrived, I was able to net four more, but missed as many. They appeared to be assembling, though no female could be found.

Our intention was to spend the next night really high, but we were forced down to Lautaret by a spectacular cold thunderstorm. The night, even here, seemed most unpropitious, so we set up the trap and retired. Next morning, it was full of moths, notably eight *Cucullia lucifuga* D. & S., *Apamea rubrivena* Treits., *Chersotis alpestris* f.c., *Eriopygodes imbecilla* Fabr., *Eurois occulta* L., *Paradiarsia sobrina* Dup., *Euchalcia variabilis*, *E. modesta* Hubn., *Hadena caesia* D. & S., *Xestia ochreago* Hubn., *Heliophobus reticulata* Goeze, many *H. proxima*, several more *O. celsicola* and four of the small arctiid, *Chelis maculosa* Gerning.

We drove by stages to Esteng (Alp. Marit.) which was to be our headquarters for the next three nights. This is another rich montane locality (1800m.) which yielded, among other things, many *A. detersa* and *C. alpestris* at flowers from dusk onwards, and at light several of the large, white *Coscinia cribraria candida* Cyrillo, numerous *Xestia ashworthii candelarum* Staud., *Ochropleura renigera* Hubn. and *Euxoa decora simulatrix* Hubn., several *Chersotis elegans* Evers., *Hoplodrina respersa* D. & S., *Caradrina selini* Boisd., two *C. gilva* Donzel, *Ochropleura celsicola* and *O. signifera* D. & S., *Opigena polygona* D. & S., single *A. rubrivena*, *Hadena tephroleuca*

Boisd., *H. compta* D. & S., and *Syngrapha ain* Hochenwarth. Among the geometers, there were many *Eupithecia semigraphata* Bruand, *Colostygia aptata* Hubn., *Eulithis prunata* L., several *Scotopteryx diniensis* Neub. and *P. berberata*, *Scopula incanata* L., *Idaea flaveolaria*, Hubn., *Triphosa sabaudata* Dup., *Catarhoe cuculata* Hufn. and *Gnophos glaucinarius* Hubn.

On Aug. 5th we moved down to Guillaumes, 800m., and tried sugar beside the river. Several *Catocala puerpera* Giorna, one *C. promissa*, one *Mormo maura* L. and two *Lygephila craccae* D. & S. were the principal visitors, while light attracted *Abrostola asclepiadis* D. & S., *Ochropleura nigrescens* Hofner, *E. occulta* (2), *P. sericata* (2), *Agrotis crassa* Hubn. and *C. selini* in a total of 45 species.

Next day we stopped for ablutions at an attractive waterfall on a tributary of the R. Var, and found under the bridge there many *Ephesia nymphaea* Esp. and a few *Catocala nymphagoga* Esp. We discovered that the area north of St. Martin Vesubie was heavily planted up with conifers and that camping was forbidden on account of the risk of fire, so after wandering about for some time we ended up at a promontory overlooking the valley near Valdeblore. This turned out to be another very productive spot, where we spent a second night. Among the many species new to us were *Hyles vesperilio* Esp., *Ochropleura candelisequa* D. & S. (3), *Chersotis margaritacea* de Vill., *Polymixis dubia* Dup., *Cryphia simulatricula* Guen. (5), *C. petricolor galathea* Mill., *Hoplodrina superstes* Ochs., *Eublemma parva* Hubn., *E. jucunda* Hubn., *Axia margarita* Hubn., *Eucrostis indigenata* de Vill., *Scopula submutata* Treits., *Idaea rufaria* Hubn., *I. moniliata* D. & S., *I. calunetaria* Staud., *I. vesubiata* Mill., *Cataclysmes rigata* Hubn., *Euphyia frustata* Treits., *Eupithecia gueneata* Mab., *Ecleora solieraria* Rambur, and *Gnophos fuvratus* D. & S., Others included *Hyles lineata livornica* Esp., *Drymonia querna* D. & S., *Diacrisia sannio* L., *Nola chlamytulalis* Hubn., *O. nigrescens*, *Epilecta linogrisea* D. & S., *Cryphia raptricula* D. & S., *P. sericata*, *Epimecia ustula* (much smaller than the specimens seen in April), *E. ostrina*, *E. purpurina* D. & S., *E. polygramma* Dup., *Chrysodeixis chalcites* Esp., *Catocala conjuncta* Esp., *Calyptra thalictri* Borkh., several *H. obesalis*, *Thetidia smaragdaria* Fabr., *S. diniensis*, *Selidosema brunnearia* de Vill. and *Synopsia sociaria* Hubn.

Our last night in the south was at Col de Vence. Here we found large numbers of *Ennomos quercaria* Hubn. at light, and also took two *Lophoterges millierei* Staud., two *Oxycesta nervosa* D. & S., several of the *Eublemma* spp. already encountered plus one *E. sauba* Hubn., several *A. crassa* and *Mythimna putrescens* Hubn. and another *A. margarita*.

Retracing our steps, we spent the next night high in the Col du Galibier, on the Savoie side, in still, cool conditions. We did not expect to see many species, but were delighted with one specimen

of that prime rarity of the high ground, *Standfussiana wiskotti* Standfuss, one *S. nyctimera* Boisd., four *Euxoa culminicola* Staud. and a lot of *Elophos unicoloraria* Staud. We also took only the second *L. taraxaci* to come our way.

The spot south of Auxerre was out staging post on the way home, and this time it was less productive in spite of a distant thunderstorm which made conditions oppressive and humid. *C. sponsa* was common at sugar, and the light produced *Harpyia (Hoplitis) milhauseri* Fabr., a couple of *Ptilodontella cucullina* D. & S., *Mythimna albipuncta* D. & S., three *craccae* and some small specimens of *Apeira syringaria* L. in a total of 74 species.

On the Continent, there are several species complexes which can only be sorted out by examination of the genitalia. We kept about 20 *caesia* taken in various parts of the Alps, hoping to find among them *H. clara* Staud. Alas, they all proved to be *caesia*. Likewise, all the *algae* were indeed that species and not *C. ochsi* Boursin or *C. pallida* Bethune-Baker. On the other hand, it was gratifying to find that two *Chersotis* taken at Col de Vence were the recently discovered *C. grammiptera* Rambur, which is very similar to *C. elegans*. Some *Peribatodes* bred from *Juniperus oxycedrus* L. at la Voulte are, I think, merely *rhomboidaria* D. & S. and not *P. perversaria* Boisd., but pale specimens taken at Valdeblore are *P. abstersaria* Boisd.

Several species were bred from eggs or larvae obtained in April, and were imported under licence No. PHF 30/126 issued by the Ministry of Agriculture, Fisheries and Food, to whom I express my thanks for their kind assistance. The heat of the summer was not conducive to oviposition by captured females, and I failed with the ones I tried. Some larvae of *Hyles euphorbiae* L. were brought back and excited the interest of H. M. Customs and Excise; three moths emerged during the autumn, but the remaining pupae appear to be overwintering.

A RARE ABERRATION OF THE HEART AND DART: AGROTIS EXCLAMATIONIS L. — During the summer of 1984, large numbers of this moth were attracted here to my moth trap, and on 21st July I captured the rare ab. *obsoleta* Tutt. The moth looked like a wainscot and was determined by my friend Ian Lorimer. See Goater, *Proc. Brit. ent. nat. Hist. Soc.* 2(2): 64, plt. X1, fig. 9 (11 in error). — R. T. LOWE, 61 Erskine Hill, London NW11 6E.

HADENA COMPTA D. & S. (LEP.: NOCTUIDAE) CONTINUING SPREAD IN 1984. — On 24th. July 1984, I took a male *Hadena compta* D. & S. from my garden MV trap in Winchester VC 11. This is the first record for the vice-county, although it was recorded further eastwards in North Hampshire (VC 12) in 1983 by Mr. A. H. Dobson (*Ent. Gaz.* 35 : 252). — Col. D. H. STERLING, "Tangmere", 2 Hampton Lane, Winchester, Hants SO22 5LF.

A HOME FOR OLD LADIES IN WIMBLEDON

By SIR JOHN DACIE*

On the 18th July 1983 in the day-time, 12 specimens of *Mormo maura* L. (Old Lady), were found at rest in a World War II air-raid shelter in our garden. The shelter is partly underground and is approached by a flight of seven steps. Then, passing through an open door on the left a short passage leads to two separate rooms, one on the right and one on the left, into which no light penetrates. Their walls are of concrete and they remain cool and a little damp and at a relatively constant temperature. The 12 moths were arranged as singletons and in twos and threes on the side walls of the shelter just below the walls' junction with the ceiling. They were not disturbed but their position on the walls was outlined with red pencil, and the shelter was visited daily subsequently each morning. It soon became obvious that the moths were resting, for most of them remained on subsequent days in exactly the same position as they were when first seen. However, the number of moths in the shelter increased as the days passed. On the 22nd July there were 14, the original 12 being in the same positions as they were when first discovered, and later that day four others were found in a ventilator shaft. On the 23rd July, 19 in all were counted. My son visited the shelter at 3 a.m. on the 24th July and found most of them in their original positions; four, however, formed an overlapping group (Figure 1). On the 25th July, 20 were counted; on the 26th July, 19, including a group of six. On the 27th July, 18 were counted, including a group of eight. Some of the moths were still in their original positions; others had moved a few inches. The group of eight remained together until the 30th July. On the 31st July the total was the same, but there appeared to have been some movement and the group of eight was now one of six.

On the 1st August a total of 24 was counted, and three were examined for their sex — all were males. The remainder were not disturbed. On the 3rd August the total was 21; there had been some rearrangement and a new group of six had formed, the original group being reduced to four. On the 5th August this latter group had again increased to eight. The total remained at about 17 until the 11th August, some moths seemingly not having moved at all since their discovery on the 18th July. On the 12th August, 14 were present, including one pair. Subsequently, the numbers diminished: on the 15th August, 10 were present and on the 18th only eight; on the 22nd August there were five and on the 23rd only one. On the 28th August two were seen and on the 29th none. None was seen subsequently.

*10 Alan Road, Wimbledon, London, SW19 7PT.

In summary, specimens of *M. maura* used a pitch-black air-raid shelter as a 'rest-home' for a period of up to perhaps 40 days in July-August 1983, a peak total of 24 being present together on the 1st August. Some of the moths remained in the shelter without moving for several weeks; groups of up to six and eight were formed. Throughout this period a m.v. moth trap was run in the garden about 20 yards from the shelter. It was not until the 14th August that any *maura* were trapped, two then being taken; one more was taken on the 23rd August, two more on the 1st September and one on the 7th September. These late captures are consistent with the observation that the moths in the shelter in July and early August remained for many days in the shelter generally without moving and that they did not venture out into the garden.

M. maura has been known to seek shelter in a dark environment for many years. Edward Newman (1874), wrote "The moth is fond of resorting to summer-houses, boat houses, sheds, etc., in the interior of which it may frequently be observed in the day time, sitting on the inner surface of the roof. I once counted twenty-eight in a boat-house at Godalming. Mr. Reading says a marked specimen has returned to the same house after being repeatedly ejected". The observation of a "Home for Old Ladies" is therefore not new, even if the venue is different from that described by Newman. (In 1874, air-raid shelters had fortunately not been invented). The clustering together of the moths into groups was not, however, recorded by Newman or by Kirby (1903) or South (1920), both of whom refer to the moths' habit of flying into dwelling-houses or other buildings. The present observations suggest that the moths are not simply seeking a dark and safe resting-place in the day-time prior to flying at night, but that they are seeking a resting-place, presumably soon after emergence, where they may stay for an extended period of up to several weeks. This phenomenon, occurring in the summer time, can be referred to as a type of aestivation.

Aestivation by univoltine adult noctuid moths has been the subject of considerable research and is of special interest as it is often associated with long-distance migration (see Oku (1983) for literature). With or without accompanying migration, aestivation appears generally to be a means by which the insects can shield themselves from changes in habitat conditions. In the case of *maura*, the dark and cool air-raid shelter in Wimbledon appears to have provided the moths with a safe environment in which they were able perhaps to complete their development and the males to await the availability of sexually mature females. July-August 1983 was an exceptionally warm period for London with temperatures often as high as 20-22°C at dusk and 18-20°C at dawn. The temperature in the shelter was more constant at about 17°C. Outside the shelter, the temperature was, however, still relatively

high when the moths were leaving the shelter. It was 22°C at dusk and 18°C at 6.15 a.m. on the night (14th August) when the first *maura* were caught in the moth trap, so it appears unlikely that the moths were simply waiting in the shelter for cooler weather.

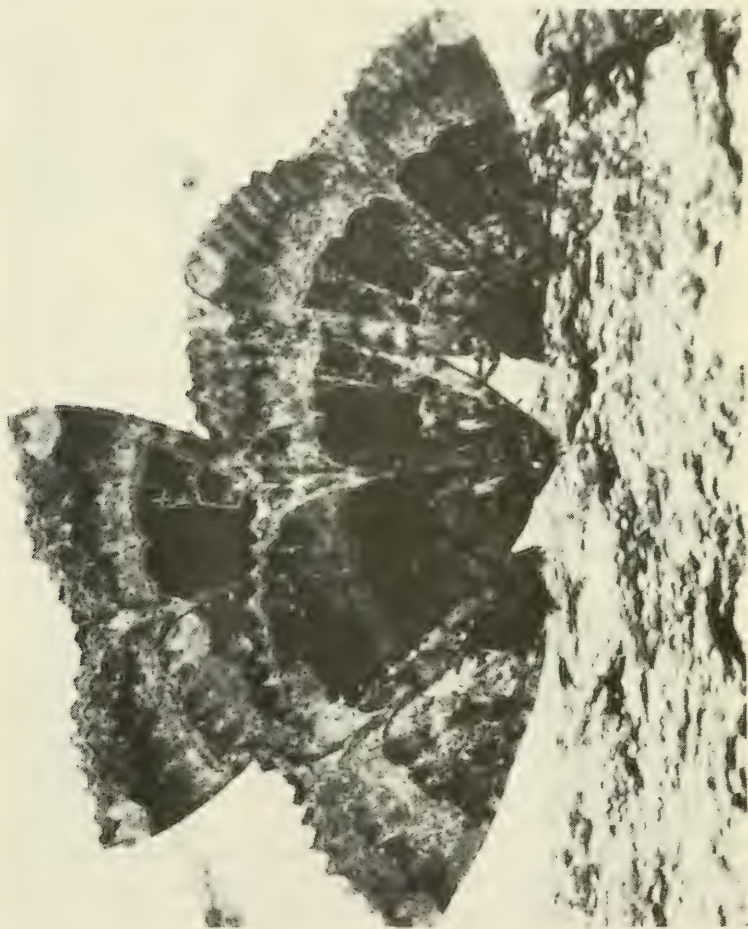


Fig. 1 *Mormo maura* L. at rest in Wimbledon in 1983

The massing of moths together in groups is interesting. This has been well described for some noctuid species, and Williams (1958) illustrated hundreds of *Agrotis infusa* Boisd. (the Bogong Moth) aestivating in large masses on the walls of caves in Mount Gingera, in Australia, at a height of 5000-6000 ft. (see also Oku, 1983). With this species aestivation is associated with migration.

The biological explanation for, and purpose if any of, massing seems obscure. It could have survival value: a mass of moths presents a large target to a predator, but by massing the number of targets would be reduced. In the case of the "Home for Old Ladies in Wimbledon", it is possible that the moths viewed particular sites with especial favour and that this was the reason for their forming small groups. If so, the relative advantages of the different sites chosen in the air-raid shelter are not obvious to the writer. That the phenomenon is simply an expression of an innate gregariousness that moths (and butterflies and other insects) share with many other groups of animals may be near the truth, but it leaves unanswered the questions as to the biological purpose of the massing together and what it is exactly that attracts one moth to another.

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SMALL COPPER: *LYCAENA PHLAEAS* L., IN DECEMBER. — It may be of interest to record here that my colleague Miss Theresa Wild observed a freshly emerged example of this species at Young's Farm, near Hainault Forest, Essex on 7th December 1984. The species normally has three broods each year in southern Britain, and in years when the summer is particularly warm, there may be a fourth, resulting in adults taking the wing as late as the second week of November. Although 1984 could not be classed as one of the warmest years on record, there was clearly a late brood of *phlaeas* in this area of Essex. I am unable to find any other records of the species flying in December, at least not for Essex or the London area. — C. W. PLANT, Assistant Curator, Natural Sciences (Biology), Passmore Edwards Museum, Romford Road, Stratford, London, E15 4LZ.

AGRIUS CONVULVULI L. IN S. WESTMORLAND IN 1984. — A male *Convolvulus* Hawk-moth appeared at my m.v. light here at Beetham, the night of 12th/13th September 1984, the sixth in three successive years, and prior to one in 1979, not recorded before in my list. — J. BRIGGS, 5 Deepdale Close, Slackhead, Beetham, Nr. Milnthorpe, Cumbria LA7 7AY.

Notes and Observations

CONFIRMATION OF *EREBIA EPIPHRON* KNOCH: MOUNTAIN RINGLET AS IRISH. — In the course of seeking references on Irish Lepidoptera and Orthoptera, I noticed a report by Kane on the occurrence of *E. epiphron* which appears to have been overlooked by recent authors. The reference is: Kane, W. F. de Vismes, 1912. Clare Island Survey — Lepidoptera. *Proc. Royal Irish Acad.* XXXI.

Kane's short comment (*op. cit.*) reads: "Visits to Croaghpatrick were made during the first half of June in 1909 and 1910 in the hope of again finding the alpine butterfly *Erebia epiphron*, recorded by Birchall in 1854; but though the locality indicated by him was carefully and exhaustively examined by Mr. Wyse and myself, no specimen was seen. The sunless weather and chilly wind probably account for our failure. My capture of a specimen on Nephin on 9th June, 1897, however, proves its survival on the Mayo mountains, but it only flies in bright sunshine".

The above is important when considering that Redway's criticism of Kane's record (see D. B. Redway, *Ent. Gaz.* 32: 157-159) is based on the lack of knowledge of the date and capture of the Nephin specimen. — J. PAUL, 45 Beaufort Crescent, Stoke Gifford, Bristol BS12 6QY. [Although Kane only took one specimen, he saw more (see his *Cat. Lep. Ireland*, 155). The date is also interesting as being some three weeks earlier than that of the English and Scottish races. Owing to lack of information on this point, attempts by others since at re-discovering it in Ireland may have been undertaken too late in the season. — J.M.C.-H.]

WHY "WYPONOMEUTA"? — Latreille coined the generic name *Yponomeuta* from the Greek verb "hyponomeuein", to undermine, drawing attention to the supposed larval habit of mining in roots (the only species to do so is *stannella* Thunberg which has now been placed in *Euhyponomeuta*!). As a Frenchman, Latreille did not pronounce the initial "H" and dropped it on paper too. This shocked his contemporaries and Sodoffsky accordingly "corrected" the spelling, his amendment being adopted by subsequent authors (Stainton, Meyrick, etc.). Then came the rule that original spelling must be used even if it contains an obvious mistake, provided, of course, that it is pronounceable. *Yponomeuta* is easy to pronounce whether you make the first syllable rhyme with lip (as, I suspect is nearer to Latreille's intention) or eye as is the more common practice today. Yet about a year ago someone started saying "Wyponomeuta". Like all bad habits, it caught on although it is etymological nonsense; before we know where we are, an idyll will become a widdle and a whore a wore.

Incidentally, if original spelling has to be followed, why is not the family name Hyponomeutidae, since that is how Stainton first

spelt it? Nepticulidae survives as a family name after the genus *Nepticula* has been sunk in synonymy, so it follows that family and generic names do not have to conform with each other. — A. M. EMMET, Labrey Cottage, Victoria Gardens, Saffron Walden, Essex, CB11 3AF.

IDIOCERUS HERRICHI Kbm. (HEM. CICADELLIDAE) IN S. E. LONDON. — On 8th August, 1984, a specimen of this genus of leaf-hoppers appeared walking on my water net after I had been dredging in the Princess of Wales Pond on Blackheath. The pond is fringed by a number of crack willows (*Salix fragilis* L.) of various sizes, from one of which the insect must have dropped, flown, or been dislodged as I passed. The presumption of its belonging to one of the two common willow-feeding species hereabouts, *I. lituratus* Fall. and *I. stigmatalis* Lewis, would ordinarily have been so strong that I should barely have given it a second glance; but in this case, something subtly different in its aspect induced me to tube it. Upon examination at home, to my amazement it proved to be an undoubted *I. herrichi* Kbm. (♀), exactly fitting the diagnosis and figure for this rare East Anglian species in Dr. W. J. Le Quesne's key (1965) and also the mental image I retained of the specimen I took in Norfolk in 1973 (Allen, 1978, *Ent. Rec.* **90**: 113) — now in my friend Dudley Collins' collection. I twice revisited the place and thoroughly worked the willows around the pond (paying, of course, particular attention to the actual spot where the insect had occurred) and also another area of these trees not far off; but entirely without success as regards *I. herrichi*, though its two common congeners named above occurred freely.

This is indeed exceedingly odd, for the species of *Idiocerus* are markedly gregarious. However, it is interesting to note that there is another and fairly recent record of a solitary specimen of *herrichi* in a new locality: one swept from *Salix alba* L., its normal host, at Broad Chalke, S. Wilts. (8.ix.76) by Sir Christopher Andrewes (1977, *Ent. mon. Mag.* **113**:241) — the first British record outside Norfolk, where a few examples were taken at the end of last century at three places near Norwich (Edwards), and one by the writer near Swaffham in 1973, as mentioned above. Here again the captor failed to find another in several visits to the Wiltshire locality during the next two years. Perhaps, therefore, *I. herrichi* is less gregarious than the other species, or possibly prefers to live high in the trees so that only odd individuals turn up in normal collecting. The Blackheath capture is the first to be recorded away from *Salix alba*, for clearly none of the willows round the pond are of that species — indeed the white willow appears very scarce here, if present at all.

This highly unexpected occurrence brings the total of *Idiocerus* spp. from the district up to 13, or 14 if it be extended eastward to Abbey Wood where I took a single *I. elegans* Flor, as recorded in

1978 (l.c.); in the latter case, all but three of the 17 known British species. — A. A. ALLEN.

APION PUBESCENS KIRBY (COL.: APIONIDAE) IN CUMBRIA. — On the 31st August, 1983 while collecting coleoptera in an old disused limestone quarry at Dunnerholme near Askam in Furness, (SD21.79), Cumbria I took one specimen of *Apion pubescens* by grubbing at the base of Wild Thyme growing on a low grassy bank on the seaward side of the quarry. Although I searched the immediate area for some time this was the only individual seen.

This would appear to be a new record for the weevil from Cumbria and it probably represents a new record for vice county 69, North Lancs. as well. According to Fowler (1891, *Col. Brit. Isl.* 5: 166) *A. pubescens* is of local occurrence in Britain and is known from various localities in England and has been recorded from Kinrosshire and the Forth district of Scotland.

The hostplants of *A. pubescens* as recorded in the literature are various species of *Trifolium*, including *T. campestre* and *T. pratense*, and Dieckmann (1977, *Beitr. Ent.* 27:77) gives a few brief details on the biology, stating that the larvae develop in the stems and rootstocks of the various foodplants where a gall is usually produced.

I wish to thank Mr. Anthony Allen for kindly identifying *A. pubescens* for me and for much useful information on the Apion group in general. — R. W. J. READ, 43 Holly Terrace, Hensingham, Whitehaven, Cumbria, CA28 8RF.

LEPIDOPTERA IN NORTH-EASTERN ENGLAND, 1983-84. — Having moved from the South of England to Guisborough, Yorks (V.C. 62) in 1983 and studied the lepidoptera of the area, I was pleasantly surprised by the number of species. Many were found which are not recorded on the distribution maps in Heath *et al.*, *The Moths and Butterflies of Great Britain and Ireland*, Vols. 1, 9 & 10. I suspect this is because observers have not submitted their records rather than any other factor although lepidopterists are rather thin on the ground here. The area contains a wide range of habitats in a relatively small region, from sand-dunes, salt-marsh and sea-cliffs to heather moorland via farmland, suburbia, heavy industry and Forestry Commission plantations, all of which contribute to the richness of the natural history.

The following is a selection from the 350 species recorded so far, with light-trapping being the major technique used:— *Lasio-campa quercus* L. ssp. *callunae* Palmer, *Pseudoterpna pruinata* Hufn., *Entephria caesiata* D. & S., *Mesoleuca albicillata* L., *Coenote-phria salicata* Hbn., *Eupithecia nanata* Hbn., *Chloroclystis debiliata* Hbn., *Venusia cambrica* Curtis, *Gnophos obscuratus* D. & S., *Acherontia atropos* L., *Parasemia plantaginis* L., *Meganola confusalis* H.-S., *Agrotis vestigialis* Hufn., *Rhyacia simulans* Hufn., *Xestia agathina* Dup., *Sideridis albicolon* Hbn., *Lacanobia suasa* D. & S.,

Parastictis suspecta Hbn., *Acronicta alni* L. ab. *steinerti* Casp., *A. menyanthidis* Esp., *Mormo maura* L., *Apamea oblonga* Haw., *A. scolopacina* Esp., *A. ophiogramma* Esp., *Stilbia anomala* Haw., *Plusia festucae* L., *P. putnami* Grote ssp. *gracilis* Lempke (more common than *P. festucae*), *Autographa bractea* D. & S. (Guisborough, two; Hutton, W. Yorks, one. 1983). — P. WATERTON, 'Brackenhill', Belmangate, Guisborough, Cleveland TS14 7BB.

LATE SIGHTINGS OF THE COMMA AND PEACOCK BUTTERFLIES IN E. KENT IN 1984. — I noticed a very fresh Comma (*Polygonia c-album* L.) on October 20 flying near Whitstable, and was able to approach to within a few inches of the butterfly as it alighted on the sea-wall. This is the latest date I can recall seeing this butterfly.

On November 9, a Peacock (*Inachis io* L.) flew around the roof top here before alighting on the open door of our shed, where it basked for a while in the weak November sun. Then, entering the shed and inspecting the interior for about 10 minutes, especially an area close to an old chest of drawers, it finally settled down inside the shed against one of the sides, having apparently chosen its winter quarters. — J. PLATTS, 11 Maydowns Road, Chestfield, Whitstable, Kent.

LABIA MINOR L. (DERM.) IN E. LONDON. — This local insect, the Small Earwig, though often common where it occurs, has come under my notice probably less than half-a-dozen times in the course of many years' beetle hunting. I have no data for the above area, but never met with it there until last year, when it was present in some quantity in a mixture of dry horse-manure and straw at Mudchute Farm, Isle of Dogs, Greenwich, 18.v.84 (just north of the Thames). It was accompanied by the beetle *Anthicus formicarius* Goeze (= *quisquilius* Thoms.) also in some numbers. *L. minor* is mostly found in conditions such as this, but I once took several by evening sweeping in a lane at Cheshunt, Herts. (viii.44); and Mr. D. Collins had one fly to his house lights at Carshalton Beeches, Surrey, two years ago. These two occurrences indicate a crepuscular habit which I believe is well known in the species. — A. A. ALLEN.

EVERGESTIS EXTIMALIS SCOP. AND SITOCHROA PALEALIS D. & S. (LEP.: PYRALIDAE) IN HAMPSHIRE IN 1984. — In Hampshire, 1984 does not seem to have been a very good year for unusual appearances, so I was very pleased to find a single specimen of *Evergestis extimalis* Scop. on 12th Aug. 1984 and two specimens of *Sitochroa palealis* D. & S., one on 19th. July and the other on 31st July 1984, all in my garden MV trap in Winchester VC 11. There are no published records of these Pyralids from mainland Hampshire for 22 and 30 years respectively. Both of these species come into the category of migrants which sometimes form temporary colonies and no doubt analysis of all migrant records for 1984 will show in due course whether these specimens were likely

to have been part of any general migration, but there was little evidence locally of such having taken place. There appears to have been a local colony of *E. extimalis* at no great distance from here but VC 12) between 1954 and 1960 (see Goater, *Butterflies and Moths of Hampshire and the Isle of Wight* 1974 : 185), so possibly this did not die out. Regarding *S. palealis*, Mr. G. R. Else informs me that on each of the past two years, he noticed a single specimen on Gilkicker Point (VC 11) whilst sweeping for Hymenoptera, so it is possible that a colony formed there as a result of 1982 movements and that the two 1984 Winchester specimens had moved inland from there. The 1982 immigration report in *Entomologist's Rec. J. Var.* 95 : 143 where four specimens were reported in the Isle of Wight would be in line with this possibility, as Gilkicker Point juts out into the Solent opposite the Isle of Wight. — Col. D. H. STERLING, "Tangmere", 2 Hampton Lane, Winchester, Hants. SO22 5LF.

DIACHRYSLA CHRYSITIS L.: BURNISHED BRASS IN NOVEMBER.

— A fresh male was noticed on a street light at Dartford, 7th November 1984. Most years I see a specimen or two of a token second brood in late August and September, although not this year. The time interval between the emergence of the second generation and the date of this specimen would suggest it might be representative of a third brood. — B. K. WEST, 36 Briar Road, Bexley, Kent.

AMPHIPOEA LUCENS FREYER: LARGE EAR IN CORNWALL. —

On 31st August 1983, two specimens of this species came to my light on Bodmin Moor. Both had longer, narrower and paler wings than *A. oculatea* L., and when set showed a discal mark on the underside of the hindwing and the suggestion of a postmedian line. On dissection of the genitalia, both exhibited a sharply pointed cucullus with no overlap of spines, and a long clasper projecting beyond the cucullus.

I believe that *A. lucens* has not been recorded from Cornwall previously, being chiefly a northern species, but Heath (*The Moths and Butterflies of Great Britain and Ireland*, Vol.10) mentions records for Devon and Somerset. *A. fucosa paludis* Tutt has been recorded from Bodmin Moor, although it is chiefly a coastal species. It would be interesting to hear of any other records of *A. lucens* for Cornwall. — A. SPALDING, Penzephyr Farm, Trebrownebridge, Lizkeard, Cornwall.

EPIPHYAS POSTVITTANA WALKER (LEP.: TORTRICIDAE) IN CENTRAL LONDON. — Amongst a number of moths captured by Mr. Jeremy Burge in his garden at Fulham, London SW6, and shown to me for identification was a very worn tortricoid taken on 26 June 1983. I tentatively identified this as *Epiphyas postvittana* Walker, and this was subsequently confirmed by David Agassiz, to whom I am most grateful. This species is a native of Australia, where it is

known as the apple leaf roller, and is a serious pest of orchards in some regions. It is known in Britain principally as an adventitious species although it was discovered to be established at Newquay, Cornwall in 1936 by F. C. Woodridge. The first record for south-east England appears to be that at Westcliffe-on-Sea, Essex in 1952, (*vide* Emmet, 1981 *The Smaller Moths of Essex*. Essex Field Club). Since then it has been reported at Charlton, West Kent by A. A. Allen on 1 June 1983 and 7 July 1983, (*Ent. Rec.* 96: 120 & 137), and at Grays, South Essex by David Agassiz on 27 August 1983, (*Ent. Rec.* 96:254). Mr. Burge's capture would therefore seem to be particularly noteworthy, and the second for the London area (Mr. Allen's two being the first and third records). It may be of significance that although the principal foodplant in Britain, *Euonymus japonicus*, could not be located, it is a plant quite likely to be found in gardens in this area. Further, other *Euonymus* feeding Lepidoptera, such as *Yponomeuta cagnagella* Hb. were amongst the specimens shown to me. — C. W. PLANT, Assistant Curator, Natural Sciences (Biology), Passmore Edwards Museum, Romford Road, Stratford, London, E15 4LZ. [In Cornwall I found the larvae on a variety of foodplants, but mainly on the cultivated purple veronica though never on *Euonymus* (see *Ent. Rec.* 87 : 58). — J.M.C.-H.]

CELASTRINA ARGIOLUS L.: HOLLY BLUE OVIPOSITING ON COTONEASTER. — D. A. Prance's Note (*Ent. Rec.* 96: 263) reminded me that on 21st May 1982, whilst at Slade Green, Kent, I observed a Holly Blue egg-laying on the flower bud clusters of a deciduous low growing form of Cotoneaster. I collected one of the eggs to see if the larva would feed on Cotoneaster, but after a few days it collapsed being evidently infertile. — D. A. SAUNDERS, 128 Loose Road, Maidstone, Kent, ME15 7UB.

POLYMIXIS FLAVICINCTA D. & S.: LARGE RANUNCULUS ON GARDEN MINT. — I was interested to read Mr. Craske's note (*Ent. Rec.*, 96:70), since I too have found larvae of this species feeding on a small bed of mint. That was in my father's garden near Chichester, where half grown larvae were noted in 1982, 1983 and 1984, about a dozen in each year, and since I have no mint in my own garden, found that they fed up successfully on apple. Apart from these, my only acquaintance with the moth has been singletons at light at Chichester and Dorking. — P. A. CATTERMOLLE, 13 Waverleigh Road, Cranleigh, Surrey GU6 8BZ.

CALLIMORPHA DOMINULA L.: SCARLET TIGER IN WESTMORLAND. — Early in the evening of July 19th 1984, Mr. J. Carduke the local Florist and greengrocer at Milnthorpe, netted a female *Callimorpha dominula* L. fluttering up the newly cream-washed walls of the local hostelry, only a few yards from his front door, around which stand buckets of cut flowers, imported from the Channel Isles.

Approximately 15 to 16 miles further north, there is a flourishing colony of this species, discovered, and well described, by Dr. N. L. Birkett (in *Ent. Rec.*, 92: 85). Could it be a stray from this brood? This seems unlikely, in view of the fact, that the Milnthorpe specimen laid numerous infertile eggs, loosely, in the large container, in which fresh nettles and dock leaves were placed. The probable explanation being that it arrived as a cocoon among the imported flowers. Was it something akin to this, that began the N. Cumbrian colony? — J. BRIGGS, 5 Deepdale Close, Slackhead, Beetham, Milnthorpe, Cumbria LA7 7AY.

CURATE'S OVUM. — Lt.-Col. Carter (*antea*: 285) is right, and he may like to know that he was anticipated in his objection by no less an authority than the late P. B. M. Allan. I regret I cannot cite chapter and verse, but Mr. Allan drew attention to the matter in a note in this Journal. He made the further point that the use of *ovum*, though indeed Latin for egg, is nevertheless in this sense a misuse because in biology it has taken on a special meaning: i.e. a female gamete or sex-cell which after fertilization gives rise to a new individual. I agree that a desire for consistency with *larva*, *pupa*, and *imago* has probably dictated the survival of *ovum* as an entomological term — survival, because early scientific works were written in Latin. The word *oviposition*, on the other hand, is scarcely open to the same criticism, being a straight coinage like most technical terms; though, it must be owned, the plain English *egg-laying* is generally to be preferred. — A. A. ALLEN.

THE SLOE PUG: CHLOROCYSTIS CHLOERATA (MABILLE), AND THE MARSH PUG: EUPITHECIA PYGMAEATA (HUEBNER) IN BEDFORDSHIRE. — In May 1984 I successfully reared a dozen *C. chloerata* from larvae beaten from various south and mid-Bedfordshire locations. On 9th June 1984 I observed an adult specimen of *E. pygmaeata* feeding at Common Vetch and subsequently saw several more in a rough field near Clophill, Bedfordshire. Both the above are apparently additions to the county list. — K. F. WEBB, 2 Kingsdown Avenue, Luton, Bedfordshire.

A SECOND RECORD OF THE LEAST CARPET: IDAEA VULPINARIA H.S. IN HAMPSHIRE. — On the night of 21st - 22nd July, 1984 a single *Idaea vulpinaria* was caught in the Rothamsted light trap at Alice Holt Lodge, Hampshire. This appears to be only the second record of this species in Hampshire and the first from vice county 12. The previous Hampshire record in 1977 was at Ashurst in V.C.11 (Craik, 1978, *Entomologist's Rec. J. Var.* 90:7). — T. G. WINTER, Forestry Commission, Alice Holt Lodge, Farnham, Surrey.

DROMIUS ANGUSTUS BRULLÉ (COL.: CARABIDAE) UNDER PLANE BARK IN WINTER. — To-day (2.i.85), on my way to the local shops, the fancy took me to lift a piece of loose bark on the trunk of a roadside plane tree, when to my great surprise two examples of *Dromius angustus* Brullé were exposed in a dormant

state, the temperature being but a few degrees above zero. I carefully replaced the piece of bark and returned later to effect their capture (they had not moved) and extend the search a little before the cold should put a stop to it. No further *Dromius* was discovered, but very many *Deracocoris lutescens* Schil. (Hem.: Miridae) and two or three other hibernating commoners.

D. angustus is a recent arrival in S. E. London (see Allen, 1982, *Ent. mon. Mag.*, **118**:232). The present find seems notable since there are, I believe, few records of beetles from under plane bark in Britain. Yet the London Plane offers convenient overwintering sites by reason of the unusual nature of its bark — the outer layer periodically becoming separated from the inner so as to be readily detachable in flakes and sheets, leaving the familiar yellow patches. Whether the *Dromius* was merely making use of the tree for hibernation, or has now taken to it permanently as a breeding-site, is a question I hope to be able to answer later. It is already apparent, however, that the former association of the species with pine, possibly never very strict, has recently become much looser with its spread into the London area. — A. A. ALLEN.

Current Literature

Colour Identification Guide to Moths of the British Isles (Macrolepidoptera) by **Bernard Skinner**. Colour photography and text figures by **David Wilson**. Pp. i-x, 1-267 (including 42 coloured plates of 1558 illustrations and 57 text figures). 245 mm x 190mm., hardback. Viking, 1984. £20.

For the past 76 years, Richard South's *Moths of the British Isles*¹ has reigned supreme as the colour identification guide to our macrolepidoptera. Now we have this new book by Bernard Skinner, who is probably the most competent and successful British field macrolepidopterist this century, and David Wilson, an entomologist, artist and photographer of exceptional ability. The result of their combined labours is a work, the accuracy of whose coloured illustrations, surpasses anything so far published on this group in Britain.

A pithy, dependable and remarkably informative text of 160 pages, gives essential details of all residents and genuine migrants including, so far as is known, their present status, distribution and habits, as well as brief particulars of variation for many species. Identification of a number of species of similar appearance is facilitated by a series of enlarged drawings in the text, finely executed by David Wilson, and showing the critical differences. Page 160 has an Addendum with details of *Mesapamea secalella* Remm (Lesser

¹The First Edition (1907-08) and subsequent printings, but not the edition of 1961 with its inferior plates.

Common Rustic), the species only recently recognised as distinct from *M. secalis* L. (Common Rustic), but doubtless by an oversight the following information given is erroneous. Hence *M. secalis* is usually the slightly *larger* of the two, not the smaller as stated.

The chief feature is of course the coloured plates. These comprise 1558 natural size coloured photographic figures of set insects, mostly from the author's own collection and including many of sub-species and aberrations. I was privileged to see the original colour transparencies from which these plates were made, and to compare the two sets of illustrations. The former are breath-taking for their marvellous fidelity, and although during the process of printing the plates have lost some of the superb quality of the originals, they are still very good representations of the actual specimens. The only poor illustrations in the book would seem to be plate 17, figs. 18 and 19, where the green in *Hylaea fasciaria* L. ab. *prasinaria* D. & S. appears much discoloured. Most of the specimens figured are British, although a few are of foreign origin: *Drepana curvatula* Borkh. for instance is taken from a French example. The names of the specimens shown together with the page references to the text, are conveniently placed opposite the plates. However the data with each specimen are lacking, which is a pity as that would have occupied little extra space and yet added so much of interest.

Altogether 2,500 copies of the book were printed, of which we understand some 2,000 have already been sold up to the present time. For those who possess this work, it should now be possible, even for the most inexperienced tyro, to identify specimens with comparative ease, provided their condition is not too bad and except for certain critical species (e.g. of the difficult genus *Epirrita*) that require genitalic preparation. Our hearty congratulations to Messrs. Skinner and Wilson on a most worthwhile production. — J.M.C.H.

British Hoverflies. An illustrated identification guide by Alan E. Stubbs and Steven J. Falk. 253 pp., 13 plates (12 coloured), 8 text figures and many line drawings within keys, British Entomological & Natural History Society, 1983. Price: hardback £21.00, softback £18.00.

This exciting addition to the literature on British Diptera has already stimulated greater interest in the Syrphidae. There are useful introductory chapters on collecting and studying the flies. The habits and biology of adults and early stages are summarised. The keys are kept brief and simple to use by concentrating on easily discerned characters, which are illustrated by sketches. The systematic part of the text augments the keys by dealing with other diagnostic features and discusses variation. Comments on distribution and biology are based on the authors' wide experience and the new information coming out of the Hoverfly Recording Scheme.

Wherever there is uncertainty either about specific limits or identity or about habits or biology, this is highlighted to draw

attention to where further work is most needed and the literature cited was carefully chosen to assist in future studies.

The plates by Steven Falk are a most delightful feature of this work; they illustrate 190 species with exceptional clarity and will enable many species to be identified without reference to the keys.

A few minor textual errors were soon discovered by users and an errata slip was quickly issued detailing the most important of these. — P. J. Chandler.

De Danske Svirrefluer (Diptera: Syrphidae) by **E. Torp**. 300 pp., 4 coloured plates, 381 text figures and 262 distribution maps. Danmarks Dyreliv Bind 1, Fauna Bøger, Copenhagen, 1984. Price: 283 D. kr.

Following recent popular works on the Syrphidae by Dutch and British authors, Torp has produced a comprehensive treatment of the Danish fauna which should encourage interest in hoverflies in Denmark. It provides detailed keys to all Danish species, well illustrated by line drawings of diagnostic features. These are augmented by four plates of colour photographs of pinned specimens, depicting 109 species and 3 varieties. Knowledge of the structure and biology of the early stages is summarised and a useful feature is the well illustrated key to known larvae. There are short sections on cytology, mimicry and various aspects of adult biology.

The book is in Danish except for a chapter in English on the distribution and habits of each of the 263 Danish species (of which 218 are British, 11 of them appearing under different names to those used by Stubbs & Falk but this is readily apparent from the included check list). This is supplemented by maps showing the present and past distribution of all species in Denmark. Altogether a very useful and attractive work. — P. J. CHANDLER.

Breeding the British and European Hawk-moths by **Paul Sokoloff**. 56pp. (including 9 plates and 5 text figures), stiff wrapper. The Amateur Entomologist Vol. 19. 1984. Obtainable from AES Publications, 4 Steep Close, Green Street Green, Orpington, Kent BR6 6DS. Price £2.30 inclusive.

The fact that this an Amateur Entomologists' Society monograph is a recommendation in itself, such is the high reputation these handy little publications enjoy, this one being the fifth in a series on the lepidoptera issued by the Society.

The booklet consists of the following seven chapters, each of which is packed with practical information and interesting wrinkles. (1) Obtaining Stocks; (2) The Larval Stage; (3) The Pupa; (4) Emergence; (5) Pairing and Egg Laying (including notes on hybridising); (6) Parasites and Disease; (7) Notes on the Species.

A select but well chosen bibliography and a check-list of European Hawk-moths (29 species) completes the work. — J.M.C.-H.

Teleiopsis diffinis Haw.

Knock-e-Dhooney, one, Rothamsted trap, 3.VI.1974. (Abdomen missing, determination based on external features). A further specimen from this site, 20.VI.1974, det. H.N.M.

Lita virgella Thunb.

South Barrule, two, 18.V.1971, det. H.N.M.

MOMPHIDAE

Blastodacna hellerella Dup.

Maughold, male, m.v. trap, 26.VI.1974, genitalia checked.
Knock-e-Dhooney, male, Rothamsted trap, 28.VI.1974, genitalia checked, det. H.N.M.

COCHYLIDAE

Phalonidia vectisana H. & W.

Langness, 21.VIII.1984, about six on saltmarsh, female taken, genitalia checked.

Aethes cnicana Westw.

Ballaugh, 29.VI.1977 (Smith, 1977).

TORTRICIDAE

**Clepsia consimilana* Hbn.

Curraghs (Lough Dhoo), male, 24.VII.1974, det. J.M.C.-H.

Ptycholoma lecheana L.

Curraghs, female, 14.VI.1981.

Acleris laterana Fabr. (*latifasciana* Haw.)

Douglas, female, m.v. trap, 11.IX.1971, genitalia checked.
Onchan, male, m.v. trap, 8.IX.1975, genitalia checked.

A. hyemana Haw.

Sartfell, one taken at an altitude of 340m, 19.V.1972. Derbyhaven, 15.IV.1974. Round Table, 22.IV.1974. The Sloc, 29.IV.1974. All these specimens det. J.M.C.-H.

Olethreutes schulziana Fabr.

Cronk-ny-arrey Laa, three on hillside 300 - 360m, one taken, 18.VI.1970, det. H.N.M.

Orthotaenia undulana D. & S.

Ballaugh Curraghs, male, 14.VI.1981.

Bactra furfurana Haw.

Ballagh Curraghs, one, m.v. trap, 25.VII.1974, det. J.M.C.-H.

Ancylis geminana Don.

Ballagh Curraghs, male, m.v. trap, 19.VI.1974, det. J.M.C.-H.

A further male at this site at m.v. trap, 17.VI.1979.

Epinotia subocellana Don.

Ballagh Curraghs, female, m.v. trap, 17.VI.1979, genitalia checked. Dhoon Glen, male, 12.VI.1981.

E. ramella L.

Curraghs, one, 11.VIII.1975, det. J.M.C.-H.

E. nisella Clerck

Foxdale, one beaten from *Salix*, 8.VIII.1973. Curraghs, one, 11.VIII.1975, det. J.M.C.-H.

Griselda myrtillana H. & W.

Arrasy Plantation, "abundant . . .", male taken, 31.V.1970, det. A Brindle. Cronk-ny-arrey Laa, about 20, 19.VI.1979.

Pammene regiana Zell.

Castletown, one, July 1970, det. H.N.M. Slieau Whallion, female, m.v. trap, 25.VI.1974, det. J.M.C.-H.

PYRALIDAE

Eudonia truncicolella Staint.

South Barrule Plantation, about six, male taken, 14.VIII.1970, genitalia checked. South Barrule Plantation, male taken, 8.VIII.1971, genitalia checked. Kirkmichael, four at m.v. trap, male taken, 25.VIII.1975, det. J.M.C.-H., genitalia checked.

Parapoynx stagnata Don.

Ballamooar, Jurby, one, m.v. trap, 26.VII.1971.

Evergestis pallidata Hufn.

Ballamooar, Jurby, one, m.v. trap, 17.VIII.1971. One also taken at Ballakaighen (J. W. Hedges).

**Pyrausta aurata* Scop.

Ballakaighen, 25.VII.1980 (J. W. Hedges).

P. sanguinalis L.

Rue Point, two, 23.VI.1977 (Smith, 1977).

Eurhodope advenella Zinck.

Ballamooar, Jurby, at m.v. trap, 16.VIII.1971 and 19.VIII.1971.
St. Judes, one, m.v. trap, 11.VIII.1973. Port Soderick, one,
m.v. trap, 3.VIII.1975.

Phycitodes binaevella Hbn.

Ronaldsway, one found dead, 23.VI.1970.

DANAIDAE

Danaus plexippus L.

Ballakaighen, 24.IX.1981 (Hedges, 1981).

DREPANIDAE

Drepana falcataria L.

Ballamooar, Jurby, one, m.v. trap, 19.VIII.1971. Lower Fox-
dale, one, m.v. trap, 6.IX.1972. Ballaugh Curraghs, two, m.v.
trap, 12.VIII.1975.

GEOMETRIDAE

**Scopula immutata* L.

Knock-e-Dhooney, one, Rothamsted trap, 11.VIII.1974.

Epirrhoe rivata Hbn.

Knock-e-Dhooney, one, Rothamsted trap, 6.VII.1974.

Thera britannica Turner.

A specimen taken at Ballakaighen was found in the J. W. Hedges
collection. A report by R. Cripps of "*Thera variata* subsp.
britannica — H. J. Turner" at m.v. trap, Laxey, 1974, may also
refer to this species.

Rheumaptera undulata L.

St. Judes, one, m.v. trap, 20.VII.1972. Ballaugh Curraghs,
one, also 20.VII.1972.

**Perizoma affinitatum* Steph.

Glen Maye, one at light, 15.VI.1970. J. W. Hedges has also
recorded this species at Ballakaighen.

P. blandiata D. & S.

Knock-e-Dhooney, one, Rothamsted trap, 29.VI.1974.

Eupithecia subumbrata D. & S.

Ballaugh Curraghs, one, 14.VI.1972, det. J.M.C.-H.

**Ectropis bistortata* Goeze

South Barrule Plantation, three at light, 29.V.1970. Slieau Whallion Plantation, male at light, 18.IV.1971, det A. Brindle. Greeba, one, m.v. trap, 28.IV.1972. Ballaguh Curraghs, two, m.v. trap, 17.VI.1979.

ARCTIIDAE

**Eilema complana* L.

Knock-e-Dhooney, one, Rothamsted trap, 27.VII.1974.
The Lhen, male, m.v. trap, 27.VII.1975, genitalia checked.

NOCTUIDAE

Agrotis puta Hbn.

Laxey, m.v. trap, 23.VIII.1973 (R. Cripps). This species has also been taken by J. W. Hedges at Ballakaighen.

**Polia nebulosa* Hufn.

Cornaa, one, m.v. trap, 14.VII.1975.

Lacanobia contigua D. & S.

Laxey, one, m.v. trap, 2.VII.1973 (R. Cripps).

Orthosia cruda D. & S.

Ballamooar, Jurby, six, m.v. trap, one taken, 13.IV.1972.

Lithophane ornitopus Hufn.

Ballakaighen, m.v. trap, 29.X.1980 (J. W. Hedges).

Agrochola helvola L.

Bride, male, m.v. trap, 1.X.1971.

Xanthia gilvago D. & S.

Knock-e-Dhooney, one, Rothamsted trap, 28.VIII.1974.

**Mesapamea unanimitis* Hbn.

Douglas, one, m.v. trap, 10.VI.1972.

M. secalella Remm

Ramsey, female, m.v. trap, 2.VIII.1972, genitalia checked. Ballavolley, female, 22.VIII.1984, genitalia checked. Note. Regarding Manx *M. secalis* L., all the males I dissected were of this species, also two dissected females, one, Ronaldsway, 19.VII.1969, one, Glen Vine, 23.VIII.1984. Thus, both *secalella* and *secalis* are confirmed as Manx.

Amphipoea lucens Freyer

Ballaugh Curraghs, male, m.v. trap, 6.IX.1975, genitalia checked.

A. crinanensis Burrows

Knock-e-Dhooney, Rothamsted trap, 22/23.VIII.1974. Glen Mona, male, m.v. trap, 19.VIII.1975, genitalia checked. Onchan, male, m.v. trap, 8.IX.1975, genitalia checked.

Eustrotia uncula Clerck

Knock-e-Dhooney, one, Rothamsted trap, 14.VII.1974.
Ballaugh Curraghs, male, 17.VI.1979.

Plusia putnami gracilis Lempke

Ballavolley, Curraghs, male in m.v. trap, 30.VII.1983, genitalia checked.

SECOND SUPPLEMENT

By A. M. EMMET

A party of entomologists consisting of E. C. Pelham-Clinton, then of the Royal Scottish Museum, Dr. J. D. Bradley of the Commonwealth Institute of Entomology, Dr. J. R. Langmaid, my wife and myself spent a week in the Isle of Man from the 15th to the 22nd of September, 1979. We stayed at Ravensdale, near Ballaugh, and recorded and collected by day in various parts of the island. Light-traps were run at our hotel and several other localities mentioned in the list below. In all, we recorded 109 species of microlepidoptera, of which 60 are not mentioned by Chalmers-Hunt (1970). Nine of these species are recorded also by Bond above, his records in most instances antedating ours.

Only those species not listed by Chalmers-Hunt (*loc. cit.*) are given except for *Coleophora serratella* which is probably the same as his *C. nigricella*. Our concern was mainly the microlepidoptera, as the list below testifies; however, notes are appended on four species of macrolepidoptera. Two are new to the Manx list although also recorded by Bond; another, although accepted by Chalmers-Hunt, has not hitherto been unequivocally confirmed; the record of the fourth is cancelled, since it was found to have been based on misidentification.

NEPTICULIDAE

Ectoedemia occultella L. (*argentipedella* Zell.)

Tenanted and vacated mines widespread and common on *Betula*. Recorded also by Bond.

Stigmella aurella Fabr.

Widespread and very common on *Rubus*. Mines found on *Geum urbanum* were probably also of this species.

S. splendidissimella H.-S.

Ravensdale, tenanted and vacated mines on *Rubus idaeus*.

S. ulmariae Wocke

Glenmaye, one vacated mine on *Filipendula ulmaria*.

S. marginicolella Staint.

Ravensdale, Ballaglass Glen and Glenmaye, single vacated mines on *Ulmus* at each locality.

S. continuella Staint.

Ballaugh Curraghs, a few vacated mines on *Betula*.

S. salicis Staint.

Tenanted and vacated mines widespread and common on *Salix*.

S. auritella Skala

Crosby and Dhoon Glen, tenanted mines on *Salix aurita*. Adults were reared from the latter locality.

S. myrtillella Staint.

Dhoon Glen, east of the road, tenanted mines common on *Vaccinium myrtillus*. Adults reared.

S. floslactella Haw.

Dhoon Glen, Ballaglass and Glenmaye, vacated mines common on *Corylus*.

S. tityrella Staint.

Dhoon Glen and Ballaglass, vacated mines common on *Fagus*.

S. perpygmaeella Doubl.

Ballaugh Curraghs, a few vacated mines on *Crataegus*.

S. hemargyrella Kollar

Ballaglass Glen, a few vacated mines on *Fagus*.

S. atricapitella Haw.

Ballaglass Glen, a few vacated mines on *Quercus*. I have written that the *atricapitella* group cannot be determined reliably on the evidence of mines alone (Emmet, 1976): it is now possible to do so in many instances, including also the next species. We saw no evidence of *S. ruficapitella* Haw., which is the commonest oak-feeding nepticulid in many parts of Britain.

S. svenssoni Johansson

Churchtown, a few vacated mines on *Quercus*.

S. anomalella Goeze

Tenanted and vacated mines widespread and common on *Rosa*.

S. spinosissimae Waters

The Ayres, tenanted and vacated mines fairly common on *Rosa pimpinellifolia*.

S. hybnerella Hbn.

Tenanted and vacated mines widespread and abundant on *Crataegus*.

S. nylandriella Tengst. (*aucupariae* Frey)

Dhoon Glen, Ravensdale and Ballaglass Glen, vacated mines fairly common on *Sorbus aucuparia*.

S. crataegella Klimesch

Vacated mines widespread and abundant on *Crataegus*.

S. luteella Staint.

Crosby, St John's and Ballaugh Curraghs, a few tenanted mines on *Betula*.

S. lapponica Wocke

Dhoon Glen, a single vacated mine on *Betula*.

Stigmella sp.

Numerous mines found on *Sorbus intermedia*, distinct from those of *S. sorbi* Staint., *Lyonetia clerkella* L. and *Parornix scoticella* Staint. which were also present, apparently belong to a species not yet on the British list. All but one of the mines were vacated. The tenanted mine contained a bright green larva which spun its cocoon successfully but, as is usual with late larvae, failed to produce an adult. Examples of the mine were sent to Dr. Klimesch in Austria who said that they appeared to belong to *Stigmella ariella* H.-S. He added that there were pro-

bably two species passing under this name and that the Isle of Man mines conformed with the one having the more northerly distribution. I had previously found a single vacated mine of the same species, also on *Sorbus intermedia*, near Annan in Dumfriesshire on the 17th of September, 1976. The locality in the Isle of Man is above Dhoon Glen, on both sides of the road. Any microlepidopterist who collects there at the right season will have an excellent chance of adding a new species to the British list.

HELIOZELIDAE

Heliozela hammoniella Sorh. (*betulae* Staint.)

Ballaugh Curraghs, vacated mines fairly common on *Betula*.
Recorded also by Bond.

PSYCHIDAE

Luffia ferchaultella Steph.

Marine Drive, Douglas, cases on rocks.

Psyche casta Pall.

Douglas, vacated cases fairly common.

LYONETIIDAE

Leucoptera spartifoliella Hbn.

Dhoon Glen and Glen Helen, vacated mines and cocoons on *Sarothamnus*.

GRACILLARIIDAE

Aspilapteryx tringipennella Zell.

Glenmaye and the roadside about one mile south of Dhoon Glen, tenanted mines on *Plantago lanceolata*.

Parornix anglicella Staint.

Mines and spinings widespread and abundant on *Crataegus*.

P. devoniella Staint.

Dhoon Glen, three mines and associated spinings on *Corylus*.

P. scoticella Staint.

Dhoon Glen, Ravensdale and Ballaglass Glen, mines and spinings fairly common on *Sorbus aucuparia* and *S. intermedia*.

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with the assistance of

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P. J. CHANDLER, B.SC., F.R.E.S.

NEVILLE BIRKETT, M.A., M.B.

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CERTAIN *CLYTIE* SPECIES IN EUROPE AND MALTA
REMARKS ON THE REPORTED OCCURRENCE OF
CERTAIN *CLYTIE* HUEBNER SPECIES IN
ENGLAND AND MALTA

By E. P. WILTSHIRE*

A record which has puzzled me since I read it is that of *Clytie illunaris* Hbn. found in June 1964 by D. S. Brown and H. Duddington on the banks of the R. Trent near Scunthorpe, Lincs., on horse-radish. J. Heath (1983:361) dignified this nice moth with a vernacular name: "The Trent Double-stripe", apt enough as an epithet except for its almost implying that those wishing to find it again might look for it in the same place. Its known northern limits in Europe are 700 miles to the south, on the lower course of the R. Rhone.

Recently Anthony Valletta (1984:46) mentioned the capture at an air-port hotel in Malta of *Clytie sancta* Stgr. adding "a suspected Middle East import", which was a reasonable explanation for a moth, described, as its name suggests, from the Holy Land and taken at an air-port. However, this moth's natural range in fact extends across the Saharan parts of Africa to the Atlantic: it occurs in Spain occasionally and a resident race has been described from the Canaries (Pinker, 1973: 7). It may therefore well have reached Malta by its own unaided powers, from Africa.

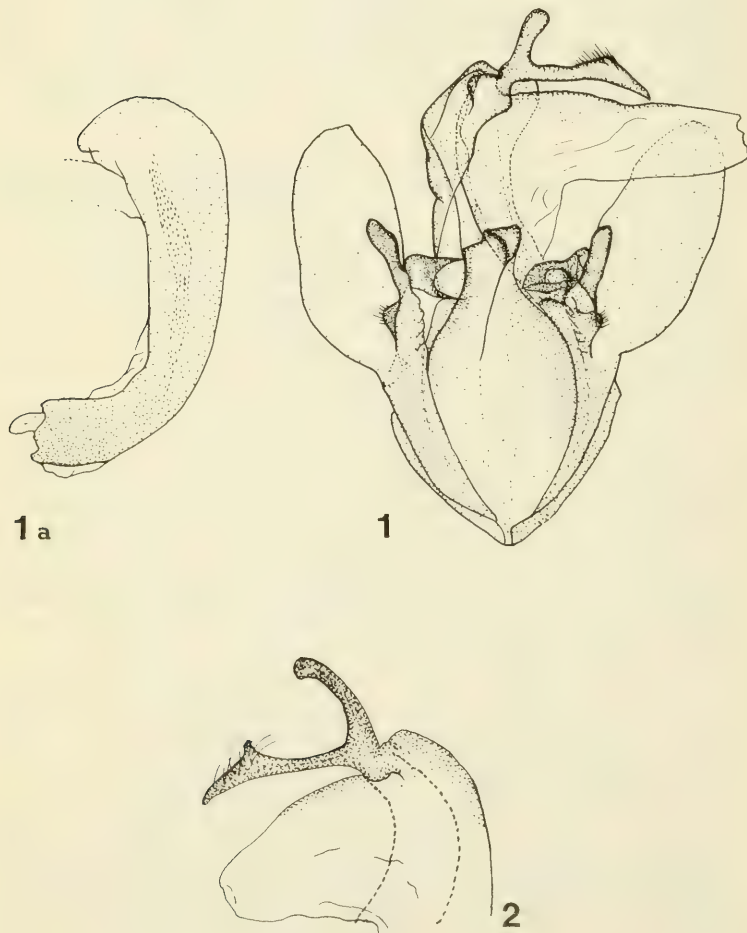
Clytie illunaris Hbn. was of course recorded as not uncommon in Malta by A. Valletta (1973) and need not be doubted to be a resident there, as it is in both Italy and Spain. But according to C. E. E. Rungs (1981:398) this south-west European moth is at the most coastal in Morocco and he suspects that earlier records of it from southerly parts of that country refer to *C. sancta*. He also mentions that the two species *Clytie haifae* Stgr., and *C. arenosa* Roths. occur there, and they too might be confused with *illunaris* if not checked genitally.

The same suspicion falls on records of *C. illunaris* from the Eastern Mediterranean, which require confirmation from the male genitalia. How far eastwards along the N. African coast it really spreads is doubtful, though Tunis at least seems likely.

The description of the one British larva and pupa, and the identity of its reported foodplant, are not the least reasons for puzzlement, as the principal, if not only, foodplant of all *Clytie* species is *Tamarix*. A desperate young larva, I suppose, unable to find the foliage of this, in Britain, usually coastal shrub, might be forced to feed on a herbaceous substitute, even horse-radish (as some low plants in France have also been mentioned); and that might account for its green colour, which is more usually in this genus, only the

*Wychwood, High Road, Cookham Berks., SL6 9JF.

colour of the younger larva, still spending the day-time high up on the green twigs of tamarisk; in later instars these larvae are brown and rest by day low down on the woody stems of the shrub, or, preferably, under loose bark on the tree-trunk, which I found the usual place selected for pupation by *C. sancta* on the sizeable tamarisk trees of the Lebanon coastal littoral. I never found these pupae "wrinkled" as described by the finders, but typically Catocaline, and glossy, except for a purplish bloom in some species.



Clytie illunaris: fig. 1, male genitalia; fig. 1a, aedeagus only.

C. sancta: fig. 2, male genitalia (uncus and anus only).

I have been unable to discuss these points with either of the two discoverers, Messrs. D. S. Brown and H. Duddington, their names not being in my society directories; that is one reason why I mention these discrepancies now. It would be interesting to hear from them. Incidentally their bred example, figured in J. Heath (1983: plate 12 fig. 7) is unusually pale and weakly marked; the more typical French example (ibidem fig. 6) was supplied to the editor from my collection.

The tamarisk may well grow in parts of the Humber and Trent estuary. It is planted on cliff walks in many parts of our southern coast, being a halophyte, and one finds odd examples of it in the interior of England. I would suggest those anxious to retake the moth in England might rather look for it in the south, where a fertile female, chancing to land on our shores, might find the normal foodplant. I myself beat tamarisks on June 28th 1980 near Ventnor, I.O.W., in the hope of finding this or some other Mediterranean moth, but in vain. Only one lepidopterous larva fell into my tray, a minute *Orgyia antiqua* (L.); this I bred up on flowers from a chance garden tamarisk growing in Cookham, Berks., until big enough to identify, when I transferred it to *Salix* leaves, and a male duly emerged on July 28th. Residents of our southern coasts where immigrants land might remember that *C. illunaris* and various exotic Geometrids might one day turn up on our coastal tamarisks.

As for the Trent, could the parent of the puzzling larva have been introduced with cargo, by ship or air-liner? The map suggests the former as possible, but those who know the area better than I do, might, if they know of tamarisks there, look thereon and ignore the horse-radishes, this summer.

The natural distribution of the genus *Clytie* was a theme in a paper I read at the SEL Congress of 1982 at Cambridge, whose appearance in print is awaited. The attached figure shewing the genitalic difference of male *C. illunaris* and *C. sancta* (mainly in uncus form) may be useful. I am indebted to Mr. S. Fletcher for figure 1 (and 1a).

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THE IMMIGRATION OF LEPIDOPTERA
TO THE BRITISH ISLES IN 1981, 1982, 1983:
A SUPPLEMENTARY NOTE

By R. F. BRETHERTON* and J. M. CHALMERS-HUNT**

1981 was a year of poverty for most immigrant species except for probably the largest invasion yet reported of *Danaus plexippus* L. In 1982 many were abundant, the profusion of *Trichoplusia ni* Hufn. and *Heliothis peltigera* D. & S. being particularly notable. 1983 was one of the best since the Nineteen Twenties, especially for *Colias croceus* Fourc., *Rhodometra sacraria* L. and *Agrius convolvuli* L. A number of additional records, and some corrections which arrived too late or have otherwise come to hand may now be added to the main reports in *Ent. Rec.*, **94**: 81-87, 141-146; **95**: 89-94, 151-152; **96**: 85-91, 147-159, 196-201.

1981

Additions to Annexe II — Scarce immigrant species.

ORTHONAMA OBSTIPATA F. BERKS. Sunningdale, 28.7 (per M. Albertini).

AGRIUS CONVULVULI L. Co. WICKLOW Rathdrum, 13.9 (R. F. Haynes).

HIPPOTION CELERIO L. DEVON S. Kingsteignton, November, caught by Mr. William Richards in garden (*The Advertiser*, December 4, per *Bull. Amat. Ent. Soc.* **41**: 72).

CLOSTERA ANACHORETA D. & S. ESSEX S. Bradwell-on-Sea, 2.6 (A. J. Dewick). Possibly immigrant.

APLASTA ONONARIA Fuessly. ESSEX S. Bradwell-on-Sea, 2.8 (AJD). Probably immigrant, otherwise a stray from Kentish colonies.

Additions to Annexe III — *Danaus plexippus* L.

AT SEA. Seen from m.v. Scillonian, 1.10, flying over the sea at about 30 feet in an easterly direction (Clive Jones, *Ent. Rec.* **96**: 81).

DEVON S. Prawle village, 27.10, one mid day, probably additional to those seen later on Prawle Point (P. J. Hopkin).

GLAMORGAN. Bridgend, 30.9, one watched on michaelmas daisies in garden (Owen Lewis, *in lit.* 21.9.84). Overton, Gower, September (Mrs. Jeffries per D. Fraser).

WORCS. near Pershore, probably late August or September, brought in alive to the Birmingham Nature Centre (Pinder, per J. E. Green).

*Folly Hill, Birtley Green, Bramley, Guildford, Surrey GU5 0LE.

**1 Hardcourts Close, West Wickham, Kent BR4 9LG.

[SURREY]. Kew, on Thames tow-path and in Kew Gardens. For a full account of observation of several specimens, 10/15.8, presumed to have escaped from an exhibition at Syon Park, of the finding of some 40 ova on various species of *Asclepias*, and of the rearing of some of these in captivity, see J. L. S. Keesling, *Bull. Amat. Ent. Soc.* **41**:74-75.

It may be noted that an example of *D. plexippus* was seen for several days about 9.10 at Albufera, Algarve, Portugal, and that the island of Madeira recieved a large invasion, with subsequent establishment of the species, in 1981.

Among the common immigrants which were scarcer than usual in 1981, we now have about twenty further records of *C. crocea*, all in August and mostly of single sightings: in Dorset from Charmouth and Winspit, and inland in Surrey from Ranmore and Epsom, and from Merionethshire, and also of singles at Tipton, 3.8, and Standon, 18.8, in Staffordshire and at Swarkeston, Derbyshire, which may have been associated with the unexplained local breeding in Warwickshire, referred to in the main text. Of the diurnal *Macroglossa stellatarum* L. the ninth and most northerly was reported from Matlock, Derbyshire, 4.8.

1982

Additions to Annexe II.

EUCHROMIUS OCELLEA Haw. CORNWALL E. Trebrowne-bridge, 9.2, female in trap — the only attendant (AS, *Ent. Rec.* **96**: 238).

*SITACHROA PALEALIS D. & S. SUSSEX. Ninfield, 30.7 (MP). ISLE OF SARK, no date, 1st Channel Islands record (TNDP).

*NYMPHALIS POLYCHLOROS L. GUERNSEY. Vale Pond, first record since 1947 (TNDP).

NYMPHALIS ANTIOPA L. SHETLAND Lerwick, 4.8, by Mrs. M. Stevenson (*Bull. Amat. Ent. Soc.* **43**:146).

*SCOPULA RUBIGINATA Hufn. ESSEX Great Oakley, 22.7 (Skinner & Wilson, *Moths of British Isles*, 1984); Bradwell-on-Sea, 1.8 (AJD).

RHODOMETRA SACRARIA L. BERKS. Faringdon, 6.9, two, 2.11, this uniformly dull pink with grey line and hindwings (M. H. V. Corley, *Ent. Gaz.* **35**:110). YORK, 29.9 (M. R. Britton, *Ent. Rec.*, **96**:285).

ORTHONAMA OBSTIPATA F. BERKS. Faringdon, 3 & 4.11 (MHVC, *ibid.*).

*EUXOA CURSORIA Hb. KENT Newington, 3.8 (PJJ per BS).

AGRIUS CONVULVULI L. SUFFOLK Walberswick, 29.8; early October, ten; Felixstowe, 28.9 (HEC, *Suffolk Naturalist*, **19**:335. WORCS. Sinton Green, 2.10 (per JEG). CO. DUBLIN, two. CO. GALWAY, one (RFH, *INJ.*, **21**:187).

LYMANTRIA DISPAR L. KENT Sevenoaks, 4.8 (Skinner & Wilson, *op. cit.* 1984). Possibly immigrant, otherwise an escape.

MYTHIMNA VITELLINA Hb. PEMBROKESHIRE. Monorbier, 31.7 (Mrs. D. Rees).

MYTHIMNA UNIPUNCTA Haw. ARGYLL. Barcaldine, 19/20.9 (Dr. J. C. R. Craik).

*ENARGIA PALEACEA Esp. BERKS. Faringdon, 6.8 (MFVC, *ibid.*)

SPODOPTERA EXIGUA Hb. BERKS. Faringdon, 20.7, (MHVC *ibid.*). GUERNSEY. Forest, 8.7 and several to 16.9 (TNDP).

HELIOTHIS PELTIGERA D. & S. GUERNSEY, 24.6 (TNDP).

TRICHOPLUSIA NI Hb. BERKS. Sunningdale, 16.9 (per VMA).

*AUTOGRAPHIA BRACTEA D. & S. BERKS. Faringdon, 6.8 (MFVC, *ibid.*)

Among the commoner species, the records now include daily observations of *Cynthia cardui* at Bradwell-on-Sea, Essex (AJD). These give a total of 297 for the year, beginning on 15th May, with small numbers in early June, but showing sharp and probably mainly migratory peaks on 17th July (17), 11th (30) and 28th (31) August, 4th (23), 10th (40) and 15th (71) September, the last example being seen on 3rd October. This compares interestingly with the total there of 987 *Vanessa atalanta*: this began much more strongly in May and June and after late July showed only small daily peaks with sightings continuing until the end of November. This pattern clearly indicated a smaller relative importance of immigrants and much more local breeding than in *C. cardui*. At Weston-s-Mare, Somerset it was noticed that, whereas the June examples of *C. cardui* were all pale in colour, dark forms, newly emerged, were seen on 21st July and were fairly numerous thereafter until 15th October; these presumably were the result of local breeding (CHSB). In Ireland *C. cardui* was also fairly common, with a total of 367 reported, from 6th June until 15th October, mainly in the south but reaching north to co. Antrim (RFH in *Irish Naturalists' Journal* 21:187).

Of *Colias crocea*, among the few additional records, two were seen beside the Lancaster Canal in Westmorland, which were the northernmost of the year, in early August; in Oxfordshire singles at Barford St. Michael on 6th June, which was the furthest inland record, on 10th August by the river Thames, 10th August, and at Great Tew, 22nd September (GAP). At Beer, South Devon, two were seen as late as 20th November (TWH). Two seen at Castlemaine, co. Kerry, were the most westerly in Ireland, where the 77 reported from 7th July to 31st October were mostly in southern areas, with the majority on Cape Clear Island, co. Cork (RFH, *ibid.*) But it remains a rather poor year for this species.

The estimated total of over 800 *Macroglossa stellatarum* can be increased by a further 40, mostly of single examples widely spread. In all, it was reported from 23 English and Welsh counties and three,

IMMIGRATION OF LEPIDOPTERA IN 1981, 1982, 1983 79
Perthshire, Aberdeen and Orkney, in Scotland. In Ireland, however, it seems to have been much less common, with only 38 reported between 18th June and 14th November and few from August onwards. It reached north as far as co. Down (RFH, *ibid*). In the British Isles as a whole, however, 1982 was probably the best year for the species since at least 1959, when 789 were reported, though its abundance did not approach that in the Nineteen Forties, when 4,250 were noted in 1947 and high numbers in other years.

Autographa gamma is usually the commonest British immigrant, and it maintained this position in 1982. The trap records at Bradwell-on-Sea show a remarkable total of 4,950 from 16th May to 24th November, and high numbers came also from a dozen other contributors who reported in detail for much or all of the season. From late July onwards numbers were increased by local breeding, but clearly migratory peaks continued, including one on 3rd November, when 50 were trapped at Weston-s-Mare. Real abundance was, however, apparently confined to coastal areas, numbers seen inland being not outstanding. The earliest reported was on 12th May and the last on 26th November. In Ireland 663 were reported, in ten counties the most northerly in co. Antrim; but abundance seems to have been confined to the south (RFH, *ibid*).

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Add to Annexe I — Names of Recorders

G. Acklam, G. M. Chapman, A. R. Collins, J. F. D. Frazer, M. J. Goddard, Mrs. G. Green, A. S. Harmer, M. Hazell, P. Hollindale, A. W. G. John, N. W. Lear, J. Levene, J. R. Miller, E. Patrick, R. Pitman per RFH, Trevor Scott, Roger Smith (Warwickshire county recorder), G. D. Trebilcock and B. K. West.

Delete from Annexe II — Scarce Immigrant species.

Under SPODOPTERA EXIGUA, Preston, 8.11, male, 9.11, female (M. Cade); under TRICHOPLUSIA NI, DORSET, Poole, 15.9 (SCP); under RHODOMETRA SACRARIA, SOMERSET N., Berrow, *delete* 23.7, substitute 26.8, 26.9, three, 27.9. ENARGIA PALEACEA, (3) BERKS. Faringdon, 18.7, 7.8 (MHVC).

Add to Annexe II — Additional species.

DIASEMIOPSIS RAMBURIALIS Dup. GUERNSEY. 25.9 (P. Costen per TNDP).

*SITACHROA PALEALIS D. & S. DORSET. Portland B.O., 6.8 (MR per NMH). HANTS ISLE OF WIGHT. Freshwater, 31.7 (SAK-J). HANTS S. Hayling Island, 18.7. (JMW). HANTS N. Stockbridge, 25.7, male (MJ). KENT E. Dungeness, 22.7 (ECP-C). SUSSEX E. Peacehaven, 15.7, two (CRP). Possibly some immigrant, otherwise strays from temporary colonies.

*OSTRINIA NUBILALIS Hb. CORNWALL W. Mawnan Smith, 19.8, worn male (APF). SUSSEX E. Peacehaven, 12.7, two, 15.7, three, 22/24.8, three (CRP). CO. CORK MID. Fountainstown,

23.8 (AAM, first Irish record). Coincidence of dates *inter se* and with other migrants suggests immigration, but the species is now fairly widely resident in south England.

ISSORIA LATHONIA L. DORSET. Margaret Marsh, Shaftesbury, 30.7, one clearly seen, showing underside (J. Simner per RDGB *in lit.*).

LITHACODIA DECEPTORIA Scop. SUSSEX E. Peasmarsh, 16.6 (TS, *Amat. Ent. Soc.* exhibition, 1984, per BS).

CHRYSODEIXIS CHALCITES Esp. DORSET. Arne, 29.9 (Skinner & Wilson, *op. cit.* 1984: 147).

Add to Annexe II, further records

PALPITA UNIONALIS Hb. DEVON S. Axminster 27.9 (ECP-C). KENT W. West Wickham, 23.9, 5.11 (MH per JMC-H).

NYMPHALIS ANTIOPA L. BERKS. Crowthorne, 23.9 (L. Chalke, *Bull. Amat. Ent. Soc.* 43: 81). BUCKS. Beaconsfield, 12.7 (identity checked, per MA). HUNTS. Between Monks' Wood and Beville Wood, 21.7 (*Report of Hunts. Fauna & Flora Society*, 1983 per JH).

N. POLYCHLOROS L. KENT E. Stuttesfield Down (TR/14Q), 19.6 (P. H. Gray per E. Philp).

DANAUS PLEXIPPUS L. GLOS. S. Between Pucklechurch and Dyrham Hall, 18.9, found dead by Mr. Haynes, now in Bristol Museum (per NWL). GLAMORGAN. Lavernock Point near Cardiff, 18.9 (E. Goulden per D. Fraser); Gower, September (Dr. A. Lack per D. Fraser).

RHODOMETRA SACRARIA L. DORSET. Corfe, 25.8, male, 27.8, two females, 30.8, male, all disturbed by day (ASH); Brownsea Island, 24.9, two, 30.9, three (ATB). HANTS S. Lymington 30.8, 5.9 (ASH); Winchester, 12.9, f. *sanguinaria* (PHS). KENT W. Orpington, 21.8, female (P. Sokoloff). SUFFOLK W. Monks' Eleigh, 31.8 (AW, *Suffolk Naturalist* 20:29) SUSSEX W. Selsey, 30.9 (A. Jupp, *Bull. Amat. Ent. Soc.* 43:198). WILTS N. Old Basing, 3.10 (A. R. Davey, *Ent. Gaz* 35:152).

ORTHONAMA OBSTIPATA F. DORSET. Preston, 8.11, 9.11 (M. Cade). KENT W. Charlton, 4.6, female, 17.6, male (A. A. Allen, *Ent. Rec.* 96:82).

AGRIUS CONVULVULI L. BERKS. Reading, one early 9 (per MA). DORSET. Poole, August & September, two (SCP). Portland, 8.9, two (MH). ESSEX S. Little Baddow, 19.7 (GAP). HANTS S. Barton-on-Sea, 26.9, male; New Milton, 27.9, on window; Sway, 28.9, female at rest; 29.9, male, 10.10, female (ASH). KENT W. Dartford, 30.9, male on gate post (BKW). SUFFOLK W. Monks' Eleigh, 24.9 (AW, *Suffolk Naturalist*, 20:28). WILTS S. Whaddon, 28.8., battered; Clarendon, 26.9; Salisbury, 30.9; Bower Chalke, no date, female, (*Bull. Salisbury & District Nat. Hist. Soc.*, 1983:9, R. Pitman per RFH). YORKS v.c 62. Nunthorpe, 20.9, female on

shed (NH). In IRELAND, 31 reported, including those mentioned in Annexe II (RFH, *Irish Naturalists' Journal* 21:324).

ACHERONTIA ATROPOS L. WORCS. Drakes Broughton, September, one full grown larva (P. Cull per JEG). IRELAND: eight in all, including additionally singles from Co. ANTRIM, Co. CLARE, Co. WEXFORD.

THAUMETOPEIA PROCESSIONEA L. GUERNSEY: 19.8 (Rothamsted per BS), on the same night as in Cornwall.

*EUPROCTIS CHRYSORRHOEA L. YORKS v.c. 61. Muston, 25.7 (PQW).

*PELOSIA MUSCERDA Hufn. ESSEX S. Little Baddow, 19.7, in garden trap (GAP).

*MEGANOLA ALBULA D. & S. DORSET. Brownsea Island, 17.7, 22.7 (ATB). SUFFOLK E. Thorpeness, 18.7 (BS).

*EUROIS OCCULTA L. DERBYS. Glapwell, 10.9 (J. Culpin, *Proc. Trans. Br. Ent. nat. Hist. Soc.*, 17:5).

MYTHIMNA ALBIPUNCTA D. & S. HANTS N. Burghclere 16.9 (per MA).

MYTHIMNA UNIPUNCTA Haw. DORSET. Portland, 8.9 (MH).

MYTHIMNA LOREYI Dup. SUSSEX W. Rogate, 4.9 (JACG). SUSSEX E. Peacehaven, 17.6, 12.9, 20.9 (CRP).

SPODOPTERA EXIGUA Hb. SUFFOLK W. Monks' Eleigh, 10.11 (AW, *ibid*).

HELIOTHIS PELTIGERA D. & S. CORNWALL W. Rosewarne, 19.8 (per RIL & IW).

CATOCALA FRAXINI L. WILTS S. Zeals, 22.9, male m.v.l., only the second Wilts record (Stewart Canham per GDT *in lit.*).

In Annexe II stars indicating residence as well as probable or possible immigration should be added before EURRHYPARA PERLUCIDALIS Hb., MARUCA TESTULALIS Geyer and PAPILIO MACHAON L.

After the changes made above the total of scarcer immigrant species for 1983 is 58, of which 23 are also resident. 12 non-resident and usually common immigrants were also reported; a few examples of some of these may have survived from 1983 in an unusually mild winter. Of these *Macroglossa stellatarum* L., of which there are many additional records, deserves a fuller mention than already given. A total of about 400 were reported, with ten larvae: about half the number of 1982. It began with a single example, probably hibernated, in Sussex, 4th April, followed after a gap by 25 from 6th June onwards; a dozen in the last week of July; about 250 with a peak in late August and early September, a dozen in October, and the last on 1st November in West Sussex. It was reported in 31 English and 3 Welsh vice counties, reaching up the coast to Anglesey and North Lincolnshire; but it was not numerous north of the

Thames and had its northern limits in Derbyshire and Staffordshire. Larvae were found in Sussex in mid July and in West Cornwall in early August, and local breeding probably contributed much to its later numbers.

Annexe III — The Clouded Yellow (*Colias crocea* Fourc.)

Since this Annexe was completed important information has become available both from individual recorders and from collective county or regional reports, which in all add about 1,700 sightings to the round total of about 13,000 already mentioned. Among the latter are detailed reports for Dorset (N. R. Webb and J. A. Thomas in *Dorset Natural History & Archaeological Society* **105**: 173-174); the Common Butterfly Survey, 1983 by the Bristol Regional Environment Centre and associated detailed records covering North Somerset and part of South Gloucestershire (per NWL); a summary of the report for Warwickshire by Roger Smith, county recorder (J. M. Price, *Birmingham Natural History Society* **25**: 110); and *Rpt. Huntingdonshire Fauna and Flora Society* (per J. M. Heath), which contains remarkable single early records at Woodwalton, 20th April and St. Ives gravel pits, 12th May, followed by a total of "well over 100" for the year. We have also had a further list (unpublished) for Sussex (D. Dey), and from Herefordshire (M. W. Harper) over 60 sightings from 27th July / 2nd August and some 20 later, with the last on 29th September.

Most of the additional information broadly confirms the pattern of national distribution already mapped in the Annexe; but the report for Warwickshire, which gives a total of 487 sightings with presumed breeding colonies at Bidford-on-Avon, Harbury and four other places, and also that for Herefordshire, require drastic up-grading of the mapped abundance for these counties and also suggest that penetration and local breeding in the Midland counties generally was greater than we had previously supposed. The numbers in Warwickshire and Herefordshire, however, show the familiar pattern of main peaks in the last days of July and early August and in late September and early October: in Warwickshire 60 were seen at Charlecote on 2nd October.

Among other new records from Dorset is a valuable account (A. S. Harmer) of breeding at the lucerne field near Corfe, already mentioned by others as a point of special attraction and abundance. One male was seen on 12th June, three males and one female on 14th, and seven, including three females on 15th and 19th, culminating in twelve, two of which were females, on 26th June. On 23rd July fresh specimens were just emerging, with some too limp to fly. On 1st August scores were seen, and on 3rd several hundreds, after which numbers fell until by 11th the species had almost left the lucerne field, although scattered in small numbers elsewhere on the nearby Purbeck Hills. Fresh *C. crocea* were however seen

on 30th August, and ten, with worn females, on 24th September. A half grown larva was accidentally swept from lucerne on 30th August. This account serves to confirm our conclusion, previously stated as a probability, that offspring of the June immigrants contributed to the abundance in late July and early August. It is probable, however, that the sudden peak on 3rd August indicates, there as elsewhere, simultaneous reinforcement by immigrants.

This timing of much of the life cycle of *C. crocea* in the wild is supported by careful observations of individual larvae *in situ* near Leatherhead, Surrey by K. J. Wilmott. Eggs seen to be laid on white clover (*Trifolium repens*) on 27th July hatched on 4th August, were found set for their first moult on 8th August, and appeared to be ready for pupation on 17th and 18th; none could be found on 19th August, 24 days after oviposition. The dates of emergence of the butterflies is not known. But if seven to ten days are allowed for the pupal period, the whole duration would be about one calendar month, in a locality which was probably less warm than that at Corfe, and later in the season.

Small additions can now be made also to previous numbers in South Hampshire and Isle of Wight, East and West Kent, Middlesex, Northamptonshire, Surrey, and Worcestershire. In Ireland only 93 were reported, all on the eastern side from Co. Antrim to Co. Wicklow. (RFH, *ibid.*). To these we can add reports of fair numbers in August in Murlough N.N.R., Co. Down, in the north; about eight seen 14th August at Tachumshin, Co. Wexford, two others in that county on 3rd and 6th September; and further west at Ballycotton, Co. Cork, 21st July (JMW) and at Cape Clear Island three 28th and 29th July, on 27th August, and a single f. *helice* 13th October (ARC). It seems, however, that the species was nowhere abundant in Ireland.

Further, we have now seen the account of The Clouded Yellow Migration of 1983 by E. Pollard, M. L. Hall and T. J. Bidy (*Entomologist's Gazette* 35: 227-231), which is based on counts made on weekly transect walks from April to September at 48 sites between the south coast and Westmorland. Detailed numbers are not stated for each site or in total, but the accompanying distribution maps and a histogram of weekly mean numbers per transect count suggest a total of at least 600 sightings (some of which are included in our own records). The histogram shows a dating picture broadly similar to that given by our table in Annexe III. The authors have concluded that from mid July onwards most of their records were of second or third generations locally bred from the June immigrants, though they mention our view that there were considerable later influxes and add that, though this is not supported by their monitoring results, on our view augmentation of the "home bred" by immigrants population cannot be discounted. Since their account differs so greatly from our conclusion that, although local breeding

was certainly important, it was unlikely to have contributed more than a minority to the years' total, we state below our reasons for believing that the discount needs to be large. First, we have definite observations of Clouded Yellows flying in from the sea or at rest on beaches, often in numbers, at two localities on 23rd and 25th July and at five others in early August, besides the influx between Studland and Swanage which is already described in the Annexe. Second, at places on or near the coast where *daily* monitoring was conducted the records show several large and short lived jumps in the numbers seen, both during this period and also in the last week of September, and on some other dates when sightings of actual arrivals are not available. Third, most of the dates of peak records of *C. crocea* from late July onwards correspond closely with those of other species which were then undoubtedly immigrant (see Annexe II). This cumulative evidence does strongly indicate that primary immigrants made a very large contribution to our records of *C. crocea* during its period of maximum abundance and probably also in late September. Whether they accounted for as much or more than half of the year's total must, however, remain uncertain.

On the Continent there are several reports of a build-up of the Clouded Yellow in Spain early in the year, and of later unusual abundance in the French Massif Central. In the Netherlands it had a very good season, with 253 widely reported (Lempke, *Ent. Ber.* 1984); and in Norway a few were seen near Oslofjord, the only previous record being of two in 1977 (GKA).

EDITORIAL. — Mr. Paul A. Sokoloff having consented to undertake the duties of Editor, I have great pleasure in stating that he will be conducting *The Record* as from the next issue. He needs no introduction from me, for he is well known to many as one of our foremost amateur entomologists, and I wish him and the future of the magazine every success. I take this opportunity of thanking most cordially all those contributors and readers, members of the editorial board, printers and others, for their help during my editorship, and trust that they will extend the same goodwill and support to my successor. — J. M. CHALMERS-HUNT.

EARLY MIGRANTS IN SOUTH HAMPSHIRE. — Following news that Mr. Donald Russwurm had taken *Hyles lineata* Fabr. ssp. *livornica* Esp. in Brockenhurst on the night of the 3rd April 1985 I was pleased to take a male *Heliothis peltigera* D. & S. and three *Nomophila noctuella* D. & S. on the following night in my Lymington garden trap, to be followed by a male *H. l. livornica* on the night of 6th April. A *Cynthia cardui* Linn was also seen in Lymington on 6th April. There were strong Southerly winds on the 2nd April and a predominantly Southerly airstream for the next four days. — A. J. PICKLES, 2a Park Avenue, Lymington, Hampshire SO4 9GX.

A COLONY OF *ANASIMYIA INTERPUNCTA* HARRIS (DIPT.: SYRPHIDAE) ON THE THAMES MARSHES

By A. A. ALLEN, B.Sc., A.R.C.S.*

This hoverfly, only lately (1980) separated off from *A. lunulata* Mg., was brought to the attention of British dipterists by Mr. A. E. Stubbs in the following year. So far it is one of the least-known of our Syrphidae, and apparently much the rarer of the two species although *lunulata* is anything but common. Confirmed British records of *interpuncta* appear to be four only to date: Wicken Fen, Cambs. (a few examples); Woodwalton Fen, Hunts. (1 ex.); Boston Manor, Middx. (2 exx.) — these given in full by Stubbs (1981:11), who later adds a Norfolk record (Stubbs & Falk, 1983). Further, it seems that the species was taken in West Kent many years ago, since Chandler (1969) gives two 19th-century records under *A. lunulata*: Old Charlton and Plumstead Marshes. However, *A. interpuncta* had not then been split off, and it is clear from what we now know that these two Kent records must almost certainly be referred to that species, instead of the bog-loving *lunulata* which is probably not Kentish.

On 14th June, 1984, on the Erith Marshes near Slade Green in N. W. Kent, I caught a male *Anasimyia* on a buttercup flower not far from a drainage dike, which (to my great satisfaction) was seen to be a member of the above species-pair. In the course of the afternoon three further specimens were secured: one in the same way and two swept from dikeside herbage, making a total of 3♂♂ and 1♀. As expected, a careful study of the flies with the above works placed their identity beyond doubt as *A. interpuncta*. Returning to the site on the 21st I found the species not uncommon, still with males predominating, and accompanied this time by a pair of the far more familiar *A. lineata* F. — nearly all at buttercups. This was indeed a curious reversal of expectation, and something quite new in the hitherto fragmentary British experience of the rare *A. interpuncta*. However, all but one (♀) of the eleven examples captured on this second occasion had the wings frayed. The flies still seemed confined to a limited area, but some occurred as much as 15 yards or so out into the field from the dike. Associated Syrphids were *Chrysogaster hirtella* Lw. and *Eristalis sepulchralis* L. in plenty, others fewer.

Not the least unexpected feature of the occurrence relates to flight-period. All the few previous records are for May, *interpuncta* being thus considered an early species; but here we have it flying in fresh condition but low numbers in mid-June, and only a week later in worn condition but much higher numbers. This poses questions,

*49 Montcalm Road, London SE7 8QG.

and may necessitate a revision of our estimate of its flight-period, which on present evidence would seem to extend to the end of June if not later. (The worn females caught would presumably have already bred.) The allies of *interpuncta* usually last into August or September; does this indicate a second brood or a protracted emergence-period? Further investigation of the Erith Marshes colony is obviously desirable.

Stubbs & Falk (p. 191) point out that because so little material is at present available, the degree of variation in this hoverfly is not yet known. The 14 specimens before me vary only to a trivial extent, and scarcely at all in the critical character of the outer hinder corners of the pale abdominal markings; except that in one those on tergite 2 are less clearly drawn away from the edge at the corner than in the others, much as in *A. lunulata*; however, the markings of the other tergites are typical of *interpuncta*. There is good agreement throughout with Stubbs & Falk's figures. The yellow thoracic stripes are much wider in the females than in the males, in places as wide as and wider than the black stripes between them. In *A. lineata*, for instance, this is not clearly the case.

References

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- Stubbs, A. E. 1981. *Anasimyia contracta* Torp & Claussen, 1980 and *A. interpuncta* (Harris 1776) (Diptera: Syrphidae) in Britain. *Proc. Trans. Br. ent. nat. Hist. Soc.* 14: 10-11, with figs.
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THE PAINTED LADY: CYNTHIA CARDUI IN FEBRUARY 1985. — Whilst walking along a roadside path on the Berks/Hants border near Tadley, Hants on February 6th, a mild day between two cold spells, I observed flying in my direction a *C. cardui*. — P. G. SILVER, 11 Scott Close, Emmer Green, Reading, Berks.

PARADIARSIA GLAREOSA ESP. SSP. EDDA STAUD.: AUTUMNAL RUSTIC IN CARDIGANSHIRE. — A single specimen of this unusual variety of *P. glareosa* was taken in a Rothamsted light trap at Tregaron during the night of 31st August 1984. This variety is normally associated with Shetland although it is reported that forms approaching *edda* have recently been taken in Orkney (Heath & Emmet, 1979, *The Moths and Butterflies of Great Britain and Ireland*). The captured specimen is in fine condition, with a uniform, almost black ground colour and with the cross lines and stigmata clearly outlined in a pale buff. My thanks to Mr. David Carter (British Museum, Nat. Hist.) for confirming the identification. — I. J. TILLOTSON, Tyloed, Tregaron, Dyfed, SY25 6JF.

SOME NOTES ON THE LARVAL FEEDING OF
THE ROSY MARSH MOTH:
EUGRAPHE SUBROSEA STEPHENS

By I. J. L. TILLOTSON*

Eugraphe subrosea is a former fenland species apparently quite abundant during the first half of last century in the fens of Huntingdonshire and Cambridgeshire. During the middle years of last century, extensive drainage of the fens drastically reduced its habitat and the insect was considered to have become extinct. In 1965 it was re-discovered in North Wales when a single specimen was captured, and in 1967 it was found in quantity at Borth Bog in Cardiganshire. Studies at this location have revealed that its food plant is bog myrtle (*Myrica gale*), but little else seems to be known of its larval habits or development, or of alternative food plants. In Britain, its only recorded food plant is *Myrica* (Gardiner 1968), but suggested alternatives have been bog rosemary (*Andromeda polifolia*) and heather (*Calluna vulgaris*) and in captivity it is reported to have fed readily on narrow leaved species of willow (*Salix*) (Heath 1979). The larvae are active nocturnally, and considered sensitive to vibration and light, readily dropping from the food plant if disturbed. Little seems to have been recorded of their diurnal habits.

The purpose of this exercise was to attempt to rear the insect from adult to adult in conditions as near natural as possible; to make close observations on its feeding habits and larval development; to attempt to identify alternative food plants, and to photograph the insect at every stage. In order to emulate natural conditions as closely as possible, the undertaking was carried out throughout in front of an open window in an unheated and unused room. Thus, the insects were maintained at the ambient temperature during their entire cycle. In order to simulate precipitation, water was occasionally introduced in the form of a fine spray, and the cage was taken outside during some periods of gentle rain. The bog flora in the cage was maintained in a healthy state by topping up with acid water taken from that environment. As the larvae are nocturnal, it was considered of no importance that their exposure time to sunlight was reduced, and indeed long exposure to sunlight would have been unnatural and dangerous due to the 'greenhouse effect' created by the sides of the cage.

A breeding cage was prepared which contained a cut section of peat and a representative sample of the ground flora. I will not give a complete list of plants in the sample, but confine my remarks to

*Chief Warden, Nature Conservancy Council, Dyfed-Powys Region, Plas Gogerddan, Aberystwyth, Dyfed SY23 3EE.

those likely to be of significance. Growing in the peat were heather (*Calluna vulgaris*), cross-leaved heath (*Erica tetralix*), bog rosemary (*Andromeda polifolia*) and a number of bog grasses. Introduced as leafed twigs were birch (*Betula pubescens*), common sallow (*Salix cinerea*), eared sallow (*Salix aurita*), and rowan (*Sorbus aucuparia*). No other shrub or tree species were considered significant and none were introduced. Bog myrtle (*Myrica gale*) was deliberately excluded from the experiment.

Experience had shown that males are very readily attracted to light, but females were caught less frequently. However, on 4th August 1982, by using a mercury vapour lamp, several females were captured. They were introduced to the cage, and eggs were laid on the nights of 5 and 6 August. A few days after laying, the females died and were removed. Close examination of the cage contents revealed that eggs had been laid in five batches in the following locations: one batch on a leaf of common sallow, two batches on birch leaves and two batches on the sides of the cage.

In order to assist location of the larvae after hatching, some of the twigs without eggs were removed. It was considered an unnecessary duplication to leave both species of willow, so the *Salix aurita* was removed, together with the rowan. All that remained were the twigs of common sallow and birch which carried the eggs. On the 19 August one batch of eggs on the birch was seen to hatch, followed by the other batch and those on the willow the following day. The eggs on the side of the cage failed to hatch. On hatching, the larvae ate most of their discarded eggshells and then began to disperse. They were minute, pale cream in colour with black dots each bearing a hair or hairs, thus giving a slightly woolly appearance. Locomotion was by looping. Once dispersed, the larvae were almost impossible to find and it was not until the 24/25 August that a few were re-located. A count of the discarded eggshells revealed a hatch of approximately 52 larvae. These had changed little in appearance. Their skins had darkened to a greenish brown, but they were still semi-transparent with small dark brown spots and a dark brown head. They measured about 2mm.

A supply of fresh twigs, of birch, sallow and rowan, was introduced, but the old ones now bearing dead leaves were not removed. *Andromeda polifolia* was present as a constituent of the bog flora throughout the feeding period. At this stage there was no evidence of feeding or of passing into a second instar. They remained undisturbed until 3 September when a further attempt was made to locate them. Some were found which had grown to about 3mm. but they had remained greenish brown, semi-transparent, with dark spots and hairs. None were located on green foliage, all those found were resting on the dead fallen leaves of birch and willow. There was still no evidence of feeding and I was drawn to the conclusion that they spent their first instar in concealment and only begin to feed

later. In recognition of their nocturnal habits, some of these examinations were carried out by day, and some by torchlight after dark.

By 12 September it appeared that the larvae had entered the second instar. They had now grown to 5mm. in length and had become a more uniform light brown above while they had adopted a pale fawn colour on the underside. Separating these two colour zones was a dark brown strip. They seemed marginally more active, locomotion was still by looping, but they were still not observed feeding nor was there any evidence of this on the foliage. They were still mostly found on dead leaves on the floor of the cage, but some were seen on the twigs. On 14 September new foliage was supplied and as the cage was now becoming congested, the old twigs, but not the fallen leaves, were removed. A number of larvae were dislodged from these twigs, by shaking them on to a sheet of white paper. On the 24 September this process was repeated, but little change was observed. There was no change in appearance, no evidence of having entered the third instar and growth had been extremely slow to about 5mm. The larvae were now adopting an attitude of camouflage, aligning themselves with the twigs or with the midribs of the dead leaves. On the foliage removed there had still been no definable sign of feeding, although small patches of the lower cuticle of some of the willow leaves had been removed. I had not witnessed feeding and was unable to say whether this had been done before the twigs were introduced.

During the period up to 4 October the larvae became much more active and were observed feeding nocturnally on the lower cuticle of willow leaves. They stripped the leaf in patches leaving behind a network of ribs and veins and an entire upper cuticle. At the time of changing the foliage (4 October) the discarded leaves of birch and rowan were examined closely, but there was no evidence of feeding, and these species were not replaced. At this time, the larvae measured about 5-7mm. at full stretch, and were mid brown above with a slightly paler middle stripe and fawn below. After a period of feeding during the first half of the second instar, the larvae once again became immobile and for about two weeks remained in a resting position on dead grass stems or along the midribs of dead leaves. During this time, immobility had been interrupted by occasional movements to other parts of the cage. These movements seem to have served no purpose and feeding was not observed again until 12 October. At this point, the three larvae which did begin to feed demonstrated a different mode of feeding. No longer confined to the lower cuticle, they extended their activities to the upper cuticle and to the edge of the leaf, thus attacking its entire substance.

By the 18 October a dozen or so larvae had become much more mobile and had resumed feeding. No more could be located and I assumed that they represented the sum total of the survivors. They

were all feeding on sallow but it was also interesting to note that some of the younger shoots of purple moor grass (*Molinia caerulea*) had also been eaten, although this was never repeated. At this stage the larvae measured 6-7mm. The dorsal half of the body was mid brown in colour but also bore a broad cream central dorsal longitudinal stripe, flanked by two narrower stripes of the same colour. The broad stripe extended across the head which was otherwise dark shining brown. A broad cream stripe with a dark brown upper margin separated dorsal and ventral regions. The lower side of the body was a uniform pale brown. When not feeding, the larvae continued to adopt a resting attitude mainly on the dead leaves of *Molinia*. If disturbed by a sharp jerk, the larvae simply dropped from their perches. Minor disturbance resulted in the adoption of a defensive attitude which involved raising the head and forward part of the body, and then curving the head forward and downward rather in the fashion of the neck of a swan.

On 27 October, the food supply was running out with leaf fall. The foliage was changed but by now the larvae showed little interest and remained in the resting position on leaf or grass. They showed no indication of hibernation or preparation for it. On 31 October two of the larvae were seen to be feeding. On 7 November, all of the larvae shed their skins and entered the third instar. For some, this induced a further attempt to feed but by this time the leaves were rather shrivelled and brown. Their appearance remained the same, but two or three days after ecdysis their size had increased to 9mm. On 13 November a few remaining leaves from their food bush were introduced and some of the larvae fed briefly. Despite some frosty nights during the second half of November the larvae continued to be active and occasionally fed on the remains of the sallow leaves. Throughout most of December night-time temperatures dropped below freezing and the larvae were relatively inactive. However, during this period one of them was observed on the leaves of *Andromeda polifolia*. Towards the end of the month, the minimum temperatures rose and they all became more active. Most of the vegetation in the cage was of poor quality and fresh *Andromeda*, *Calluna* and *Erica* were introduced. At no time did they indicate any interest in *Calluna* or *Erica*, but at this time and throughout a milder January they all fed on *Andromeda* leaves.

February was a colder month and for most of it there was little activity and almost no feeding, the larvae remaining low down on the grass stems or occasionally moving to rest on the willow twigs or on the *Calluna*. Early March was milder, the *Andromeda* began to grow, and the willow produced small catkins. Larval activity increased slightly, but although the larvae moved about the cage fairly freely, there was little sign of feeding. Towards the end of the month the nights became colder and frost was regular, but despite this, activity increased and on 23 March three larvae were feeding

quite vigorously on *Andromeda* leaves, and one had taken up station on a willow flower. Activity increased slowly throughout April but it was not until late in the month when vigorous feeding was resumed on the *Andromeda*. At this time there were considerable differences in the size of the larvae, but with renewed feeding they rapidly increased in size. On the 17 April some willow twigs were introduced which bore opening buds. After a few days some of the larvae transferred their attentions to the developing willow leaves. From this point, growth was rapid and by early May, all seven larvae had entered the fourth instar, and were feeding voraciously on willow leaves and flowers.

Towards the end of the fourth instar the larvae measured $2\frac{1}{2}$ -3 cms. Colours had become more regularly distributed in stripes and in descending order they were a narrow pale cream dorsal stripe, followed by a pale chocolate one of greater width. Three narrow stripes, all of approximately equal width and fairly narrow were respectively cream, light brown and dark brown, and were followed by a broad white band, with a very dark brown lower edge. Below this, the entire underside was pink. On the 11 May, skin colours began to darken and between 12 and 15 May all seven larvae entered their fifth instar. During this fifth and final instar, their bodily colour arrangement was the same as the previous instar, but the stripes were bolder and more pronounced, producing a very handsome caterpillar. They fed voraciously throughout the instar both day and night and achieved a length of $4\frac{1}{2}$ cms. On 26 May the larvae showed signs of pre-pupation by excavating small chambers in the Sphagnum or surface layer of the peat. Each larva enters its chamber and pupates without preparing a cocoon. At first the pupa is cream in colour but quickly darkens to become dark brown. Pupation was complete by 3 June. During pupation the vegetation in the cage was kept moist by leaving it occasionally in the rain.

On the night of 16 July, the first three adults emerged, they being two males and one female. The night of the 18 July saw two more emergences, one of each sex. This was repeated on the night of 22 July. One female was malformed with permanently crumpled wings and died on 27 July, and about 260 eggs were laid between 29 July and 1 August. The death of two males and one female followed quickly and the remaining adults were liberated.

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BUTTERFLIES IN NORTHERN CYPRUS IN EARLY JUNE, 1981

By R. C. DENING, M.A., F.R.E.S.*

Higgins and Riley (*Field Guide to the Butterflies of Britain & Europe*) do not include Cyprus in their notes on distribution, and summer visitors to Cyprus may like to know what they will commonly see.

By the first week in June the whole landscape was very dry. Butterflies were fairly scarce in open country. But in a small enclave of a few acres at Anthos, just west of the Kyrenia Mountains, in the well-watered flower gardens of a number of English residents, very large numbers were to be found.

Swallowtail: *Papilio machaon* L. To be seen everywhere, although commoner in the gardens. By this time the giant fennel has totally dried out, but the butterfly is still common in early July. Has it perhaps adopted citrus as an alternative food plant, just as has the related species *Papilio zelicaon* Lucas in California?

Large White: *Pieris brassicae* L. Common, newly hatched.

Small White: *Artogeia rapae* L. Very common, variable in size.

Bath White: *Pontia daplidice* L. Two or three single specimens: also seen in the Kyrenia Mountains at the end of June on an earlier visit in 1971.

Clouded Yellow: *Colias crocea* Geoffroy. Very common.

Cleopatra Brimstone: *Gonepteryx cleopatra* L. Both sexes common, newly hatched.

Painted Lady: *Vanessa cardui* L. Extremely common, scores could be seen at any one time, mainly on lavender.

Freyer's Grayling: *Hipparchia fatua* Freyer. One or two freshly hatched specimens on the drier edges of the settlement, among trees.

The Hermit: *Chazara briseis* L. Common, but only on the drier areas and in open country.

Meadow Brown: *Maniola jurtina* L. Very common.

Wall Brown: *Lasiommata megera* L. Common.

Large Wall Brown: *Lasiommata maera* L. Common.

Lattice Brown: *Kirinia roxelana* Cramer. Common in shady bushes around a swimming pool.

Small Copper: *Lycaena phlaeas* L. One or two.

Long-tailed Blue: *Lampides boeticus* L. Common.

Mazarine Blue: *Cyaniris semiargus* Rottemburg. Common.

Common Blue: *Polyommatus icarus* Rottemburg. Very common.

Mallow Skipper: *Carcharodus alceae* Esper. Common on lavender.

Lulworth Skipper: *Thymelicus acteon* Rottemburg. Very common.

*Sunningdale, 20 Vincent Road, Selsey, West Sussex, P)20 9DQ.

Lulworth Skipper: *Thymelicus acteon* Rottensburg. Very common.

POSTSCRIPT

The identifications of *Maniola jurtina*, *Hipparchia fatua* and *Cyaniris semiargus* need further checking. A correction note will be published later if this is found to be necessary.

HYLES LINEATA F. SSP. LIVORNICA ESP.: STRIPED HAWK-MOTH IN THE NEW FOREST. — A fresh specimen of this moth was taken in my M.V. trap at Brockenhurst on April 3rd. Immediately prior to this date a severe south westerly gale had been in force for two days. It seems possible therefore that in view of the early date of its capture the moth may have originated from Spain or North Africa. — A. D. A. RUSSWURM, Coridon, Ober Road, Brockenhurst, Hants. SO4 7ST.

THE PAINTED LADY: CYNTHIA CARDUI L. IN MARCH 1985. — On 14th March 1985, a worn *C. cardui* was feeding on flowers of the winter heather (*Erica carnea*) in my garden. — H. G. PHELPS, 'Green Oak', Potters Hill, Crockerton, Warminster, Wilts, BA12 8AD.

THERA BRITANNICA TURNER: SPUCE CARPET IN KENT. — In 1984, I saw this species for the first time at East Malling when a single specimen came to m.v.l. on 17th September, to be followed by two more on 15th October. Chalmers-Hunt (*The Butterflies and Moths of Kent*, Vol. 3) gives only two other records for the Weald Medway division of the county. There are several rows of *Cupressus* trees near the site of capture, planted as windbreaks or for screening, and these may have induced the moths to colonise the area. — D. A. CHAMBERS, 15 Briar Close, Larkfield, Maidstone, Kent.

EUPITHECIA — DELAYED EMERGENCE. — A number of species of Lepidoptera sometimes delay emergence from pupae until the second (or more) year after pupation (eg. genus *Cucullia*), but I have never before observed this in the genus *Eupithecia*, although I have bred many Pug species. However, on 5th June 1983 I took a worn *Eupithecia insigniata* Hb. (Pinion-spotted Pug) which had obviously laid most of its ova, but produced about half a dozen more before it died. From these, four pupae resulted, two emerging in 1984 on 8th. and 10th. March respectively. Later examination of the two remaining pupae showed one dried up but the other apparently healthy. This was kept outside for the winter 1984/5, brought in to room temperature at the beginning of March 1985 and emerged on 13th March. — Col. D. H. STERLING, "Tangmere", 2 Hampton Lane, Winchester, Hants. SO22 5LF.

ON SOME SAWFLIES (HYMENOPTERA, SYMPHYTA) FROM UPPER DEESIDE

By A. D. LISTON*

Dr. M. R. Young, assisted by staff of the Nature Conservancy Council, organised a field meeting of entomologists which was held at Ballater, Aberdeenshire, during the weekend 22nd-24th June 1984. Most of the specimens mentioned below were obtained during this enjoyable gathering. They are now in the collection of the Royal Scottish Museum, Edinburgh. I am grateful to Dr. M. R. Shaw for allowing me to consult the Scottish Insect Records Index, housed at the Royal Scottish Museum.

Most of the records here presented concern species which, at least in Scotland, were previously known only in Speyside. The occurrence of very local species such as *Allantus basalis*, *Rhogogaster dryas* and *Pristiphora groenblomi* in Deeside indicates that a high degree of similarity may exist between the two sawfly faunas. If their total European distributions are considered, all these species seem to be characteristic of areas with a continental climate.

Calameuta pallipes (Klug). One male, Bridge of Dee, 23.6.1984 (A. E. Stubbs). Swept from an area of damp grass on the riverside. This is the most widespread Cephid in Europe, being the only species known in Scotland and Ireland. It has not previously been found north of the Central Lowlands of Scotland.

Allantus basalis (Klug). 1 ♀, 1 ♂, Bridge of Dinnet, 22.6.84 (A.D.L.); 1 ♀, 3 ♂, Abergeldie Castle, 23.6.84 (A.D.L.). All swept from a low-growing wild rose species. Two of the male specimens have since unfortunately been destroyed. They have black marked tibiae and tarsi, thus making them very similar to specimens from Central Europe. *A. basalis* was previously known in the British Isles from three females and one male collected in Speyside during the period 1914-1944. The Speyside specimens are of the subspecies *caledonicus* (Benson), with reddish marked tibiae and tarsi. It would obviously be interesting if two discrete races were shown to occur in Scotland, but according to Hellen (1948), intergrades between the two forms occur in Finland, as might be the case here. The foodplant of the Central European ssp. *basalis* is known to be *Rosa*, as my observations indicate, but that of ssp. *caledonicus* is unknown.

Tenthredopsis litterata (Fourcroy). 1 ♀, Muir of Dinnet NNR, 24.6.84 (A.D.L.). Characteristically a southern species, it seems to be rare in the northerly parts of Scotland.

*99 Clermiston Road, Edinburgh, EH12 6UU.

Rhogogaster dryas (Benson). 1 ♀, 1 ♂, Crathie Wood, swept from *Populus tremula*, 23.6.84 (A.D.L.). The adults of this species, which is monophagous on aspen, are perhaps the most vividly coloured of all British sawflies. *R. dryas* is known from several English counties, but the only published Scottish records are of four males from Speyside (Benson, 1945; Woollatt, 1961).

Pseudodineura enslini (Hering). About a dozen leaf-mines were found on plants of *Trollius europaeus* growing in a meadow near Abergeldie Castle on 23.6.84. Although *Trollius* is locally common at other sites on the banks of the Dee, *P. enslini* could not be detected. The larvae were nearly full-grown when the mines were collected, and a few successfully spun cocoons. A single male emerged in August after having been "overwintered" in a refrigerator. In the British Isles, *enslini* has previously been recorded only from near Bettyhill in Sutherland, and near Grantown-on-Spey in Moray (Benson, 1958).

Pristiphora groenblomi (Lindqvist). 1 ♀, Morrone Birkwood NNR, Malaise Trap, 10.5.-1.6.84 (B. D. Batty). Previously in Britain only recorded from Aviemore (Benson, 1958). *P. groenblomi* is placed as a synonym of *coactula* (Ruthe) by Hellén (1975), but stronger evidence is required for such a synonymy because *groenblomi* is rather easily distinguished from the rest of the *coactula-breadalbanensis* complex.

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PERIDEA ANCEPS GOEZE: GREAT PROMINENT, IN LATE JULY. — On 28 July 1984 I collected a male *Peridea anceps* at M.V. light at the Centre for Alternative Technology, Montgomeryshire. This species usually appears in spring from April to June and so a late July record is not only unusual but raises the question of either a second brood (unlikely) or of an immigrant (equally unlikely). Most probably the moth emerged late or somehow managed to live a long adult life. — DENIS F. OWEN, 66 Scraptoft Lane, Leicester LE5 1HU.

ATHOUS SUBFUSCUS (MÜLLER) (COL.: ELATERIDAE)
IN SOUTHERN ENGLAND

By D. A. PRANCE, B.Sc., F.R.E.S.*

On 2nd July 1983 I boxed a specimen of this beetle from the underside of a leaf of a mountain ash tree (*Sorbus aucuparia* L.) growing on the slopes of Leith Hill in Surrey. It was retained because of its small size compared to the common *A. haemorrhoidalis* (F.), itself present in some numbers on the foliage of bracken nearby. The specimen keyed out in Joy (1932, *A Practical Handbook of British Beetles* 1: 446-117) as this species but remained problematic since this author (l.c.) allocates it solely to Orkney and Shetland. To solve this I took the specimen to the British Museum (Natural History) where it was confirmed as indeed *subfuscus*.

Quite how this (in Britain) northern species should suddenly appear in southern England is a matter for conjecture. There is plenty of conifer planting carried out in this locality by the Forestry Commission and this species could have been brought here from the Continent with sapling trees although a parallel may be drawn with the case of *Nudobius lentus* (Grav.). After being a purely Scottish insect (Joy, *op. cit.*, p.129) this beetle suddenly turned up in the south and has since spread widely (Steel, 1949, *Entomologist's mon Mag.* 85: 47 *et seq.*). *Nudobius* was found to be present at Leith Hill in August 1983.

Finally it may be added that other specimens of *subfuscus* have been taken recently in Surrey (P. M. Hammond *pers. comm.*). On the Continent the species is common in Central Europe (Freude, Harde & Lohse, 1979, *Die Kafer Mitteleuropas* 6: 168).

Acknowledgement

I am very grateful to Mr. P. M. Hammond of the British Museum (Natural History) for arranging for Miss C. von Hayek to see the Leith Hill specimen.

*23 Brunswick Road, Kingston Hill, Kingston-upon-Thames, Surrey, KT2 6SB.

STENOPTILIA SAXIFRAEAE FLETCHER (LEP.: PTEROPHORIDAE)
NEW TO SCOTLAND. — On 27th August 1984 I took a male *S. saxifraeae* from the window of an illuminated car showroom at Oldhall, Paisley. In view of the fact that this appeared to be the first record of occurrence of this moth in Scotland, the genitalia were mounted and sent to Dr. K. P. Bland who confirmed they were those of this species. — J. E. MORGAN, 35 Penilee Road, Oldhall, Paisley PA1 3EU.

REMINISCENCES OF AN ELDERLY ENTOMOLOGIST

By R. P. DEMUTH *

(Concluded from Vol. 97 p.19)

After the war I specialised in *muralis*. It is a lovely little creature though it is sad how its blues and greens fade away in the cabinet. It has two other merits: that it is found in the daytime and in most attractive places. I had it from the whole length of the south coast, including the yellow/brown form from Dawlish and the strongly marked pale form from Cardiff and of course a long series from the two widely spaced inland cities of Cambridge and Gloucester where I found them to be identical. I often wondered why the variety *impar* should be the only form in these two places but nowhere else. The absence of salt in the atmosphere seemed the only common ground but then the inland villages of Gloucestershire have perfectly normal seaside type *muralis*. I found that late at night it was easy to find *muralis* by walking along shining a Colman light at the walls. Instead of being so difficult to see, they shone out like jewels. To the ignorant it was a completely mad act. I was so performing in Trinity Lane at Cambridge. A policeman was observing from the shadows and came bounding out: "Excuse me sir, what exactly are you doing!" On July 28 (1948) I went to Cork to try for *muralis* there as Dudley Westropp had recorded many interesting varieties in Cork City, Monkstown and Passage. My diary reads, "My experience is now considerable. Generally speaking *muralis*, though it sits on many walls in its haunts, only breeds on very few and these nearly always within a few yards of the sea. If a choice of materials is available, old brick is much the most popular as the brick joints give just the right sites for the larval web. Walls must be at least 6 feet high, low walls however suitable never seem to have the insect and must not be overhung with trees or creepers. Real free-standing walls are much better than retaining walls with earth behind. It will not sit on walls covered with moss and does not normally like sitting on buildings. The insect emerges between 6 and 8 pm (B.S.T.) and can easily be seen when drying its wings. In strong winds or heavy rain it will get what shelter it can under copings and projecting sills. The really good breeding walls I found were between the railway goods yard and the quay for the Fish-guard boat and along the railway and road between the station and Tivoli. Both these walls are quite close to the river. I could not find the lovely *westropi* forms at Monkstown and Passage; owing to the destruction of the old railway wall these seemed to have gone. Most of mine were small, bright green *muralis* type but about a

*Watercombe House, Waterlane, Oakridge, Stroud, Glos. GL6 7PN.

quarter were similar but var. *par*. I found none really approaching var. *impar* but I did get some attractive varieties."

I was then really good. I would take a wall in strips never letting my eyes wander to another strip. A wall six feet high needed three separate searches each of a 2 ft strip. At Tivoli I just missed my bus back with not another for half-an-hour. With time to spare I could really search the wall and see how many I had missed. I had missed none.

In a later year returning through Cork from a family holiday in Galway I decided to give the harbour wall a quick search while my car was being hoisted on board. Halfway along the wall I literally collided with a large elderly man. Silly old fool I thought, why does he not look where he is going? It was Wightman (then of Pulborough)! My eyes glued to wall, his eyes glued to the wall, collision inevitable!

My other interest in my 1948 visit was to obtain the orange Irish form of *sparganii*. This I found in abundance in a small swamp near the sea at Fountainstown near Crosshaven, in lesser reedmace. They were just about to emerge (July 31). While I was collecting the pupae an Irish youth of about 18 came out to me and asked me what I was doing and I showed him the pupae and how they sat in the hollowed-out stem. I had spotted a closed exit hole in a stem in front of me and by way of illustration I cut off the stem and putting my thumb in the right place I said "There is one in here, directly below my thumb" and I split the stem and there it was and the youth crossed himself and bolted for the bank muttering. Of course if it had been *typhae* my thumb would have been in the wrong place and the miracle would have failed!

In mid-September (1948) *fraxini* at Ham Street was all the rage and no collector worth his salt missed the show. The following appears in my diary presumably by word of mouth from Bernard Kettlewell himself: "Kettlewell took 20 *fraxini* here in the fortnight ending on September 17th. Some on sugar, some flying at night round the 12 foot high tops of aspen bushes, which circled down to lower levels in the light of a torch and three sitting on 3" thick aspen trunks in the daytime, on the windward side and in the sun and four feet above ground." I was a late comer. On September 24, 25 and 26 three of us were there. I saw the only *fraxini*, which was on sugar, tried to put my killing bottle over it and rightly missed it. Still on the subject of *fraxini*, Alfred Hedges saw one egg-laying. Eggs were laid on the aspen trunk only four feet from the ground. When Alfred disturbed it, two eggs had been laid in a crack in the bark. And on the subject of *sponsa* and *promissa*, Bernard had found them at Ham Street on oak trunks at the end of July in the previous year, all low down near the ground, *sponsa* right way up, *promissa* upside-down. It was tremendously hot, 90° in the shade and this may have been the reason for their peculiar behaviour

for I always thought that both these insects sat high up in oaks on the branches, and in my youth I had spent many fruitless hours throwing sticks up with the hope of dislodging one.

1949 was Annus Mirabilis! In early March I married Veronica Drake. In the summer the Robinson brothers ran the first m.v. light and it was the year of *lunaris*, *compta* and *büttneri*, though all three had been first found several years earlier.

Veronica was an ideal entomologist's wife. She quickly picked up the technical jargon and learnt her species and was just as keen as I was. When the rain was pouring down and I would say come on let's pack up, she would say let's give it another half-hour and we were often rewarded. She was also a professional and highly skilled electrical engineer so when m.v. lights came along and something went wrong, all I needed was to wait until light was restored.

We spent our honeymoon in the remoter West Indies such as St. Kitts and Dominica, sailing in native schooners from island to island as all the regular shipping had been destroyed in the war and not yet replaced. We climbed up volcanoes through layers of tropical rain forest and tree ferns but, except in Trinidad, saw very few butterflies and moths. We got back on May 24 and by May 27 were staying at the Ferry Inn, Stone (the place of the Hungarian singing frogs) looking for alternative woods for *lunaris*. Some years before Dr. Bull had found larvae he did not recognize nor did anyone else and when the moths emerged they were this rare and exotic-looking insect. How exciting that must have been! When I find some larva I do not recognize it turns out to be *pronuba*! I had taken *lunaris* at Ham Street the previous year but I wanted some more and to show off my skill to my newly-married wife. By then it was reasonably common in the southern part of Ham Street wood and in several other oak woods in the district provided that oak had been felled the previous season and young shoots were growing from the stools. Sugar was the easiest method but it was exciting to watch them in the daytime. They looked exactly like and rested among dead oak leaves on the ground. Dry drainage ditches filled with the oak leaves, and these were the places to shuffle through when *lunaris* would get up a few feet ahead, and if an immediate net stroke was unsuccessful a long and high-speed chase followed among the oak stools and with eyes well up, horrible falls were frequent. Anyhow Veronica was impressed by my speed! On July 16 we were back with Eric Classey to look for larvae and we found quite a lot both at Ham Street and at Woodchurch and of all sizes from 3/4 to full fed. They feed on the stool oak from the winter cutting, fully exposed in the hot sun and eat down the fresh young terminal shoots of the oak stools, a sign of their presence that soon is easy to notice.

In the summer of 1949 Eric Classey told us that the Robinson

brothers had rigged up a mercury vapour lamp and this was attracting moths to a degree never seen before and he, I and Veronica decided, Veronica having the know-how, to fit up one too, which we tried out at Ham Street on July 15th. This we plugged in to Mrs. Davison's cottage on the edge of the wood and ran a long cable to a suitable point. The light stood suspended on a tripod over two sheets. It was a warm close night and the result was dramatic. As a comparison we ran a Coleman petrol vapour lamp on a sheet in another part of the wood. We reckoned that 25 times as many moths came to the m.v. light, and this included species in numbers which we had previously only seen in ones and twos at the Coleman, such as *derivalis*, *fagi* and *quercifolia*, and *gnaphalii* which we had not yet come across. It also attracted other visiting entomologists who abandoned their own sheets to marvel at the continuous flow of insect arrivals. We were again at Ham Street with our m.v. light on July 29, 30 and 31 and again between Sept. 8 and 13 and on this occasion there was a blue light deep in the woods and there were the Robinson brothers and I think Robin Mere running their light off a petrol engine and generator. We could not let this go unchallenged so as soon as we were back in London we set about getting something similar. There were no neat little Japanese generators on the market then but we found a firm in Acton who could marry a Villiers engine to a generator and fix them in a frame suitable for handling. The trouble was that it was far too heavy to move singlehanded and although I could lift it out of the back of my car I could not lift it back in again and Veronica's presence was always required. While it was being prepared, and this took a long time, we had to continue to plug in to friendly houses. And how friendly the owners were! What we wanted to do often took some explaining but the answer was inevitably "yes", and a great deal of trouble was taken in opening up outhouses or windows to give access to our cables and to other acts from rich or poor. I remember the steaming plates of sausage and bacon which came from a sergeant's wife when we plugged in to some barracks at Ash Vale near Aldershot, or "I've cooked you a little fish" from a lady in West Wales, well after midnight; or when we were connected to an expensive house on the edge of Sandwich golf course and a dinner party was taking place and the men came out in their dinner jackets (with drinks) after the ladies had retired to the drawing room, or the stately home in Hampshire where ffennell and I had our light on the lawn and the owner came out to say good night "I'm going to bed now. You will find whisky in the Library when you need it." Of course there were disasters too. We were staying near Nairn at a farm guest house and plugged our light into a disused turkey hut and on testing there was a tremendous bang and a blue flash and a lot of smoke. The evening meal was nearly cooked. The proprietor explained to the guests that a cold meal would be substituted. A

guest said that she didn't mind provided she could have a nice cup of tea. No tea either! The farmer husband has not yet begun milking. No milking either. We had blown the main fuse and only the Electricity Board could replace it and with a considerable charge, waived by them when I explained the circumstances, but no tea, no milking, no collecting that night. On another occasion, much later as we then had a Robinson trap, we plugged into an Irish farmhouse. What we didn't notice was a tethered goat and that we were within the limits of its chain. The goat exploring its territory dragged its chain across and completely decapitated the trap.

Youden had taken about 20 *compta* dusking in his garden at Dover in 1948 and he was getting them again this year so they must have been established. Cockayne, Hedges and I decided to try too and we located a large strip of sweet william in the Connaught Nurseries on the hill above Dover, grown for the flower trade. "How many flower heads did we want to buy? "Provided we have access and the plants are not disturbed we will buy the lot!" After all Cockayne was in charge of the Tring Collection and shades of Rothschild were still about. I see I visited our strip on June 17, 18, 22, 24, 25, 26 and 28. Petrol was cheaper in those days! On most of these nights Cockayne came too, but the take was meagre. The time of flight was 9.15 to 10.15 and most could be caught without using a torch as the white band is quite conspicuous in flight. Females could be seen ovipositing into the crown of the flower head. On July 17 Classey, Veronica and I went again to Dover to cut off the seed heads and send them to Tring. This was quite a mammoth task and we filled a mattress cover which we tied on to the top of the dicky of my open car and took to Euston. Here Goodson met us (Goodson was Cockayne's assistant in looking after the Tring, later the R.C.K., collection). He had reserved a special carriage on the Tring train and when we had squeezed the mattress cover through the door it completely filled the carriage. The whole manoeuvre was quite unnecessary. Eric Classey quickly got about 40 full fed larvae in a garden in the town by the simple expedient of shaking the dead leaves and stalks and collecting the larvae from the ground round the base of the plant. Only small larvae were in the seed heads during the day.

Büttneri was discovered at Freshwater by Dr. Blair. The locality was a slightly brackish marsh of reed and sedge divided from the sea by a shingle bank and the coast road and continuing up a valley inland for about a quarter of a mile. Blair's house was conveniently positioned on its edge. My 1949 diary reads:—

"Sept. 28, 29, 30. Three nights with the m.v. light after *büttneri*. The first night was misty and still, the second too windy and the third clear and cool with heavy dew. I took 5, 5 and 3 = 13, almost all females, mostly in good condition. The majority came to light about 8.30 (though the normal flight would seem to be at late dusk

at 7.30). One came to light as late as 9.30, nothing after (Stedall stayed up till dawn). *Büttneri* flutters quietly toward the light like *palustris*, only one reached the sheet, the remainder fluttering in the grass. My light was in Mrs. Elliot-Ball's garden (on her lawn which sloped down to the marsh) which proved better than any of the other spots. 70 were taken this year by about a dozen collectors. Can it stand this drain?" (We shall never know as next year the marsh was destroyed.)

The reason I was more successful than the others was because I had my light on a lawn when any approaching moths would be seen and the others had their lights in or on the edge of the reed bed where the insect would have settled invisibly in the reeds or sedge some way back from the light. When wandering about in the marsh I found a female at rest on a dead reed leaf deep down in the litter. Every now and then one's eyes pick out something it is virtually impossible to spot and this was such an occasion. As I bent down to box it I remember thinking, how could I possibly have seen that? I take it that the dusk flight were the males as the flight when it was dark enough for the m.v. to be effective were almost all females and there probably was a predawn flight too. In 1949 we had no m.v. trap to test what flew after we went to bed.

Sacraria was common at the same time in the stubble fields above Freshwater. Bernard Kettlewell had thought of an ingenious way of collecting *sacraria* which we tried out together in the stubble round Cranleigh. You take about a 30 foot length of light rope to which you tie four or five heavy objects like spanners and the two of you tow this across the stubble fields in the manner of mine-sweeping and it is very effective but ideally you need a third man with a net behind the rope.

In 1950 I was at Dalwhinnie and there found *assimilis* in an abundance which I think has not been seen since. My diary reads: "July 30. Moved to Dalwhinnie. Weather was rough with high wind and rain. Debated going out at night but in the end put the m.v. light on the edge of the Dalwhinnie-Laggan road about 1½ miles beyond the hotel. As I always do in high winds, I had no sheet and put the light close down over the ground; insects then fly down on to the heather and hang on. otherwise they get swept away. 6 *assimilis* came of which I caught 5 (4 males, 1 female). All fresh except one, but they got incredibly quickly damaged and even the fresh ones are often scratched or torn."

"July 31. Same place. Sugared on the posts on the left of the road. Four *monoglypha* the only insects. Two *assimilis* at m.v. All to date have arrived between 11.15 and 11.45 B.S.T."

"Aug. 1. Since I came to the conclusion I did not know which of the grasses was the purple moor grass, the supposed food plant, I went to see the botanist Robert Adam, who put me wise. As the

result I moved my position to the best spot for this grass and obtained 27 *assimilis*. The night was windy with heavy showers. Nearly all were fresh though even these are often damaged. They nearly all came 11.00 to 11.20, mostly males. At one time they were coming so rapidly I could not cope with them all, fluttering in the heather with great vigour like *popularis* and I imagine that up to fifty came to light. At first there were no *monoglypha* but as *assimilis* stopped at midnight, *monoglypha* began to arrive in equal numbers. Did not sugar. A quick search of grass tufts produced no *assimilis* pairs. I think they sit on the bare peat."

"Aug. 2 and 3. Two more nights at the same spot. Both reasonably suitable. On the first night I brought back 17 selected *assimilis*, on the second 35. About 75% are in tip-top condition but one is liable to damage them boxing them in the heather. (I used the sheet for a short time but they then fly wildly round so I soon gave it up.) I doubt if one in ten are females. I sugared the roadside posts on both nights, only *monoglypha* and five *assimilis*. I also looked for pairs but could find none on herbage or the fence but I got two pairs on the wood poles of the power line which crosses the moor, also some single *assimilis* on the same poles including three on one pole."

Other collectors had found *assimilis* on this high moorland both before and after my visit but nothing like my numbers. These numbers may seem somewhat excessive but *assimilis* is widely spread over most areas of the northern Highlands and probably occurs in millions. My catch provided the R.C.K. collection with a very superior series.

I have not written anything about my frequent visits to Ireland, up to three in one year, first alone, then with Veronica and our three little daughters and finally to be joined by Austin Richardson after the death of his wife Beryl. We selected the most obscure and out-of-the-way places, generally on the coast, hoping to collect where no-one had collected before and thus find new species but though we added many new localities to Baynes' list the only species new to Ireland was *xanthomista* which I took at Castle Townshend in County Cork in an m.v. trap in the castle garden. As well as moths we had to consider the little daughters and their requirements were donkeys. I remember the necessary animal being produced by a bog farmer. Daughter (aged 5): "Oh but what a darling, darling donkey. What do you call it?" "I calls it ass." Places which satisfied all requirements were Malin Head, Portsalon (fine forms of *dahlii*), Portnoo (*caesia*) all in Donegal. The Mull of Belmullet and Achill Island (too many tourists) in Mayo. Roundstone (*N. algae*) in Connemara. Of course the Burren. Sleat Head, Valencia, Dursey Island, Mezin Head in Counties Kerry and Cork and all along the south coast to Rosslare. The interior was not neglected in hopeless search for *bicoloria*.

On May 28th 1954 Veronica and I stayed at Krugers Hotel at Dunquin on the extreme tip of the Dingle Peninsula. Dunquin was the Mecca of gaelic speakers and Krugers was where they stayed. Kruger himself was a German and the hotel flew the German flag but Gaelic was the only language which produced a satisfactory response. We had our m.v. light some two miles back from the headland where the cliff is precipitous enough to keep the sheep off the maritime campion which is one of their favourite foods. We left the generator at the top and scrambled down to a narrow ledge about three feet wide and surrounded with tufts of campion. Below the ledge the cliff fell vertically. We folded the sheet into a strip and shortened the legs of the m.v. tripod and lit the Coleman lamp. Dingle Bay spread out below us backed by the line of the Kerry Mountains. Great Blasket Island was to the right and the Skerries Stacks way out on the horizon of the open Atlantic. The next bit of land would be the U.S.A. As it became dark all this faded away but the noise of the birds and the sea reminded us of where we were. When it was pitch dark the shearwaters and the storm petrels would fly in to their nesting burrows making that extraordinary crowing and gurgling noise which is frightening in its uncanniness. The only thing that had not come was *caesia* so I decided to leave Veronica on the ledge and taking the Coleman make a quick dash to the sand dunes of Ventry Bay and see if I could find *ripae*. I went on foot. About halfway there I started to think. I had taken the Coleman lamp leaving Veronica with only the mercury vapour. Suppose it went out? She could not get up anyhow as the access to the ledge was on my side and the tripod blocked her off. I turned round and rushed back. As I crossed the field to the cliff top I could hear the engine; that's good! As I leant over the cliff edge I could see the blue glow of the light; that's good. I scrambled down. Veronica was busy with the pill boxes. "I've got eight *caesia*. They are even darker than you said." Earlier I wrote that I had married the ideal entomologist's wife: well you see what I mean! We stayed till the light began to show over the MacGillicuddy's Reeks. When we got back to Dunquin it was full daylight and the sea was silver blue and every field resounded to the croak of comcrakes.

Why do I do it? No scientific paper on the structure of the sclerite has been produced. No insect new to science, or even to the British Isles has been discovered. My only claim to fame is the melanic form of the Green Arches, *Anaplectoides prasina* ab. *demuthi* and the possibility that I know as much of the distribution of the British noctuidae as anyone else. I cannot even introduce myself as I once heard Austin Richardson do so to a lepidopterist in Benbecula in the Hebrides: "My name is Richardson. I have the finest collection of British lepidoptera in private hands", and so he had. No it's none of those things. It is a desire, almost a passion, to be in remote and wild places and moths are the spur that drives me to

them. Who but an entomologist would have stood on the summit of Schiehallion watching the sun set over Rannoch Moor or on Herma Ness in Unst, the final northern extremity of the British Isles and while examining his sugar seen the *aurora borealis* flickering up and down over the arctic horizon? Or sleep in the car (our large estate car with a mattress in the back and two sleeping bags is very snug) in a ride in the New Forest and wake just as the sun is up with the shadows of the tree trunks striping the grass and a herd of deer browsing all around?

My thanks to Jane Goater for so neatly doing the typing and correcting most of the spelling faults.

Notes and Observations

A THOUGHT FOR THE FEMINIST. — The value of ladies, suitably attired, on field trips, has long been recognised (Allan, 1948, *Moths & Memories*, p.125). A long white dress makes an excellent substitute for a sheet whilst collecting moths, the lamp being shone on the lady whilst she stands still. Though perhaps P.M.B. Allan's suggestion (*op. cit.*), that she may be persuaded to stand knee deep in water at the edge of a pond, in order to attract *Nonagria typhae*, is perhaps a little ungentlemanly. The same long dress also makes an excellent beating tray, if she can be persuaded to sit beneath the tree and spread her skirts out to catch the falling insects, a wide brimmed hat is essential!!

As well as these useful techniques I believe I have discovered a new one. At a wedding I attended recently the bridesmaids were wearing wide hooped skirts with an over-skirt of net. As they walked through the grass in the church yard and at the reception, several small insects were disturbed by the hems of the dresses and caught under the net overskirts. On the one bridesmaid, which I was able to examine more closely, I noted three different species of diptera and two of hemiptera.

This technique would probably be useful in sampling a population of small insects in long grass. I offer the idea to some enterprising student who might like to develop it further. — G. F. Le PARD, Silver Crest, Silver St., Sway, Lymington, Hampshire.

DONACIA VULGARIS ZSCHACH (COL.: CHRYSOMELIDAE) IN CUMBRIA. — Dotted around the small town of Egremont in West Cumbria are a number of old disused iron ore mines, many of which were worked out and abandoned long ago. These areas have remained derelict and undisturbed and due to subsidence a number of the old workings have flooded and this has resulted in the creation of large ponds. Over the years many of these ponds have been colonised by a good deal of aquatic vegetation which has in turn created some very interesting habitats for invertebrates and wildlife in general.

While doing some collecting on 27th June, 1981 at one of these

ponds at Grid Ref., (NY01.11) I found a specimen of *Donacia vulgaris* Zschach at rest on a leaf of Broad-leaved pondweed, (*Potamogeton natans* L.) in shallow water near the edge of the pond.

In personal communication from Dr. Michael Cox (Commonwealth Institute of Entomology) apparently this is a new record for the beetle from Cumbria, and it also establishes a new record for vice county 70. *D. vulgaris* is known from a number of vice counties throughout England and Wales and from two in Scotland, Midlothian and Banffshire. Its distribution also extends to Ireland, where Johnson and Halbert (1902, *Proc. R. Ir. Acad.* 6: 758) recorded it from the following V-C's, H21, H23, H37, H38 & H39. The main foodplants of *D. vulgaris* are *Typha* (Reedmace) and *Sparganium* (Bur-Reed).

I wish to thank Dr. Cox for very kindly identifying the specimen of *D. vulgaris* and for information concerning the vice county records. — R. W. J. READ, 43 Holly Terrace, Hensingham, Whitehaven, Cumbria CA28 8RF.

THE PAINTED LADY: CYNTHIA CARDUI L. — On April 1st (after mid-day!) 1985, on a wild wet day in Plymouth, not far from the docks area, I watched a reasonably good specimen of this butterfly wandering around the streets before coming to rest in the sheltered interior of a parked car bumper-bar. — A. ARCHER-LOCK, 4 Glenwood Road, Mannamead, Plymouth, Devon.

THE ORANGE-TIP: ANTHOCHARIS CARDAMINES L. IN WEST LOTHIAN. — There appears to be a small colony of this butterfly on this estate. On May 20th 1984, I saw two males here on two separate occasions in the same stretch of lane, and found an egg on *Alliaria officinalis* (Garlic Mustard). I have lived on Hopetoun Estate since 1959, but this was the first time I have seen the butterfly here or elsewhere in W. Lothian. — GEORGE CAMPBELL, North End House, Hopetoun Estate, South Queensferry, EH309SL, Scotland.

FESTUCA ARUNDINACEA: A FOODPLANT OF COSMIOTES STABILELLA FREY AND ELACHISTA BISULCELLA DUPONCHEL. — On 10th. September 1982 I found a yellowish larva with a light brown head and plate mining *Festuca arundinacea* at Axmouth, Devon. The next day at Beer, Devon I found a similar larva and several empty mines in the same grass. Both larvae pupated very soon within a slight cocoon. On emergence on 24th. and 30th. September 1982 respectively they proved to be *Cosmiotes stabilella*.

From 19th. June to 6th. July 1983 I bred the species from several larvae found mining *F. arundinacea* at Seaton, Devon on 21st. May and at Axmouth on 21st. June 1983. Most larvae mined towards the tip of a blade and usually there was only one mine to a blade but sometimes there were two.

Emmet, A. M. (1979, *A Field Guide to the Smaller British Lepidoptera*) gives February to May for the larva and May to July

for the adult but states that the species is possibly bivoltine, which my observations confirm. Neither Emmet nor Traugott-Olsen, E. & Nielson, E. S., (1977, *The Elachistidae (Lepidoptera) of Fennoscandia and Denmark*) give *F. arundinacea* as a foodplant for this species.

Another species not recorded by Emmet or Traugott-Olsen & Nielsen from *F. arundinacea* is *Elachista bisulcella*, but on 22nd. June and 12th July 1983 I bred it from larvae found mining this on 21st. May 1983 at Seaton, Devon.

I am very grateful to Mr. E. C. Pelham-Clinton for identifying the foodplant. — R. J. HECKFORD, 67 Newnham Road, Plympton, Plymouth.

APATELE RUMICIS L.: KNOTGRASS — VOLTINISM AND MELANISM. — R. South (*Moths of the British Isles*, 1907) gives the flight period as June and July, and sometimes in August and September, while L. W. Newman and H. Leeds (*Text Book of British Butterflies and Moths*, 1913) writes similarly, but adding late May. My m/v light at Dartford, operated since 1969, indicates that here *rumicis* is always bivoltine, the first brood occurring in April, May and June, the second in July and August, very rarely in September. However the species appears to vary greatly both in numbers and in time of appearance. Thus, in 1979 I noted it as early as April 16th, while in 1976, a good year for the species here, an apparent second brood specimen was seen as early as June 30th (1st brood — 23 from May 2nd until June 9th; 2nd brood — 39 from June 30th to August 2nd). Since 1969 only in one year, 1977, did *rumicis* appear in September — four normal specimens, the last on Sept. 16th.

These m/v light records also suggest that here *rumicis* is commoner in the second brood. Thus in the nine years from 1976 inclusive, 81 first brood specimens have appeared compared to 290 second brood, and in all these years, except 1980 when there were but three specimens for each brood, the second brood was more in evidence, sometimes quite significantly, e.g. 1977 — 7:66, 1983 — 12:85, 1984 — 2:30. A further interesting point is that in Kent the larvae from the second brood seem to be observed much more frequently, thus Chalmers-Hunt (*Lep. of Kent*, 1968) has larval records only for the second brood, but this may be due to differing larval habits for the two broods; similarly, the preponderance of second brood imagines may reflect a difference in behaviour towards m/v light, but not, I think, of flight period.

B. Kettlewell (*The Evolution of Melanism*, 1973) includes the dark forms *salicis* Curtis and *lugubris* Schultz as industrial melanics phenotypically identical with ancient melanic forms found in the Hebrides and Co. Clare, and also states that most industrial melanic forms are dominant. N. W. Kent is an area noted for industrial melanism, and here during the 1970s the dominant form *carbonaria* Jordan of *Biston betularia* L. formed about 80% of this species as

indicated by m/v light records, the figure having declined subsequently, but melanic *rumicis* has remained at the comparatively low level of 20%, and this for both broods. Chalmers-Hunt (*Lep. of Kent*) states that the melanic form of *rumicis* seems not to have been noted in the county prior to 1892, and *carbonaria* was first recorded in Kent in 1901, so the length of time that these melanic forms have been known to inhabit the county is similar. In the *Lepidoptera of Kent* an error occurs regarding the prevalence of the melanic form of *rumicis* where the author suggests that this form is confined to the second generation, for my Dartford records indicate it is equally common in the two broods.

Rumicis has been attracted to my m/v light usually singly, very rarely as many as three; however on July 27th, 1983 there were twenty, curiously all typical specimens.

The above observations prompt several questions:—

- (a) In what other areas is *rumicis* more noted in the second brood?
- (b) What is the % of melanic forms of *rumicis* elsewhere?
- (c) Is industrial melanism in this species still increasing?
- (d) What % of the populations of *rumicis* in areas such as Co. Clare is melanic? — B. K. WEST, 36 Brair Road, Bexley, Kent.

A NON-COASTAL BREEDING RECORD OF CALOPHASIA LUNULA HUFN.: TOADFLAX BROCADE. — This moth, especially as a breeding species, is usually associated with coastal areas. However, on 25th September 1983, I found a mature larva in my front garden at Larkfield, five miles north-east of Maidstone. It was feeding on *Linaria purpurea* (L.) Mill. (Purple Toadflax) and pupated shortly afterwards on 29th September. The imago emerged on 21st June 1984. A search of other plants of *Linaria* in the garden failed to reveal more larvae or any obvious signs of feeding. — D. A. CHAMBERS, 15 Briar Close, Larkfield, Maidstone, Kent.

SITOTROGA CEREALELLA OL. (LEP.: GELECHIIDAE) IN HEREFORDSHIRE. — This moth, a native and sometimes pest of warmer climes, has been emerging in great numbers from the Sandford Collection of straw work now housed at the Churchill Gardens Museum, Hereford. The collection came from Eye Manor near Leominster and includes a number of items of foreign origin. It is thought that the constant very warm microclimate that is a feature of part of the Gallery during the winter (the room being directly above the central heating boiler) was responsible for the emergence; the straw work was put on display during the summer. Initially a number in excess of 300 were removed from the main display case (floor area about 4ft sq), others were taken from the walls or from other free-hanging work. Several pairs were observed *in cop.* in grooves in the moulding around doors or windows. Numbers continued to emerge throughout December 1984 and January 1985, with an occasional one or two up to the time of writing this note.

I thank my friend Dr. M. Harper for determining the moth and for pointing out that it is probably a new record for Herefordshire. — J. COOTER, Hereford City Museums and Art Gallery, Broad Street, Hereford, HR4 9AU: 20th March, 1985.

WHY DID THE CLAP NET BECOME EXTINCT? — The Clap Net was the standard insect net used in Britain (not on the Continent) from the early eighteenth century until the middle of the nineteenth, when it was replaced by the Bag Net which we use today. Later generations of entomologists have looked with awe on the old plates illustrating this net, and wondered how anybody managed to catch any insects at all with such an impractical device.

I was somewhat suspicious as to the popular belief in the clumsiness of the clap-net, and determined to try and make one to see how it would work. I soon found out, as have other modern users of clap-nets, that it is a very efficient tool for catching insects, indeed for taking an insect sitting on a bush it is infinitely better than the modern bag net.

This poses the question of why did it fall out of use? The usual answer is that it was bulky to carry when not in use, unlike the collapsable bag net. However at least one description implies that the sticks of a clap-net were fitted with joints like those of a fishing rod, which would have made it easily portable.

Having used a clap-net I would suggest another, more fundamental, reason for its decline. The one operation I found difficult with a clap-net, was boxing an insect. There is little excess material in which to hold the insect as you open the net to slip in a pill box. This would have been of little importance to an eighteenth century entomologist, who invariably killed his captures, either by pinching the thorax, or by piercing the body with a pin dipped in some poison such as tobacco juice. In the 1850s, the killing bottle was invented, and I believe that the efficient clap-net was replaced, by the slightly *less* efficient bag net because it proved virtually impossible to use a killing bottle with the old net. — G. F. LE PARD, Silver Crest, Silver St., Sway, Lymington, Hampshire.

SOME OBSERVATIONS ON HYPSPYOGIA COSTALIS F. AND PYRALIS FARINALIS L. (LEP.: PYRALIDAE). — I read with interest M. N. McCrea's Note (in *Ent. Rec.*, **96**:186) of his taking *H. costalis* on 3rd November 1983. I too had an *H. costalis* in very fresh condition at a very late date. This was at m.v. light here on 13th October 1984.

Emmet (*Field Guide to the Smaller British Lepidoptera*) gives the time of appearance of the imago of *P. farinalis* as June-August. However, during the past five years, my brother and I have accumulated records of this species on our farm, of the moth appearing in early April right through to November, and in this connection the following may be of interest.

Where the colonies of *P. farinalis* exist on our farm among old hay and straw, they are subjected from time to time to rain being driven in by wind, which provided enough dampness to generate small amounts of heat (as in a compost heap). We have observed that when this warmth exists the imago of *farinalis* seems to appear later, though of course this situation can go on continuously as bits of hay and straw are being added all the time by the farming activities of feeding cattle, and the rain is never enough to make the hay and straw rotten.

The point of interest is whether this heat is sufficient to encourage the larvae to speed up their growth in the spring, and then for the moth to be continuously brooded through to November, and therefore have the ability to make use of this warmth when available, and thus account for the records of its late occurrence as well as for that of *H. costalis*. Although these conditions are not altogether natural owing to human intervention, similar situations must exist elsewhere and it would be interesting to hear from others on the subject. — E. G. SMITH, Bullen Hill Farm, Ashton Common, Trowbridge, Wilts.

AGRODIAETUS THERSITES CANTENER: CHAPMAN'S BLUE IN MALTA. — *Aricia agestis* D. & S.: Brown Argus is a common butterfly in the Maltese Islands, where there are different forms, one of which has well developed large orange-red submarginal lunules complete up to the forewing apex and similar in appearance to *A. cramera* Eschscholtz. At Dr. Hoegh-Guldberg's suggestion I sent some Maltese *Aricia* to Prof. Dr. E. Balleto of Genova for examination as he was working on the Genus, and later received the result of his findings: all my specimens were *A. agestis* except one which turned out to be a female *A. thersites*. It was taken on the 17th June 1979, at Wied il-Ghasel, Mosta, and this may be the first record of this species for the smaller islands of the Mediterranean. I am grateful to Prof. Dr. Balleto for his prompt help in identifying my specimens. — A. VALLETTA, 257 Msida Street, B'Kara, Malta.

THAUMETOPOEA PROCESSIONEA L.: OAK PROCESSIONARY MOTH ON GUERNSEY. — A single male of this species was taken in the Rothamsted Insect Survey light trap at St. Martin's, Guernsey (Site No. 252, grid ref. 49° 26.2'N 2° 34.3'W) on the night of 18/19-8-83.

This capture coincided with a period of intensive immigration of Lepidoptera to the British Isles and particularly with the capture of another male of this species at Mawnen Smith, W. Cornwall on 19.8.83 (Foster, *Ent. Rec.* 95:216). The Cornish specimen was stated by Bretherton and Chalmers-Hunt (*Ent. Rec.* 96: 156) to be probably the first genuine British record.

Heath (*M.B.G.B. & I.*, vol. 9) considers the British status of *T. processionea* to be "doubtful" and refers to Allan 1943, *Talking of Moths* for an account of larvae and pupae, supposedly of this

species, found in Kent in 1874 (Batchelor *Entomologist* 6: 487). Until 1983 this was the only recorded incidence of this species in Britain.

Abroad, *processionea* is widespread in central and southern Europe. It feeds on oak and is occasionally recorded as being a pest. (Foster, *loc. cit.*).

Our thanks are extended to Wendy Angell who operates the trap at St. Martin's and identifies most of the specimens caught there. — A. M. RILEY, Rothamsted Insect Survey, Entomologist Department, Rothamsted Experimental Station, Harpenden, Herts.

DREPANEPTERYX PHALAEANOIDES L. (NEUROPTERA: HEMEROBIIDAE) IN WEST SUSSEX. — Following our note reporting *Drepanepteryx phalaenoides* in Surrey (Morris and Hollier, *Ent. Rec.* 96:55), I exhibited the specimen at a meeting of the Croydon Natural History and Scientific Society. During the discussion that followed, Mr. Steve Church commented that he thought that he had seen this insect at his static Mercury Vapour light in Kings Park Wood. At that time, it was not possible to verify the report. However, in September 1984 I visited Mr. Church at his new home near Lurgashall and was shown an example of *D. phalaenoides* which had been taken a few days earlier at his static MV. trap. I was informed that this was the same species as that reported from Kings Park Wood.

There would, therefore, seem to be some evidence to support the suggestion that *D. phalaenoides* is indeed resident in southern England. I would like to thank Mr. Church for his records and suggestion that I report them. — R. K. A. MORRIS, 241 Common-side East, Mitcham, Surrey CR4 1HB.

THERA JUNIPERATA L.: JUNIPER CARPET IN KENT. — I took a specimen of this local moth here at light on 29th October 1984. — R. TAYLOR, 1 Tydeman Road, Bearsted, Maidstone.

EUPITHECIA DISTINCTARIA H.S.: THYME PUG AND DEILEPTENIA RIBEATA CLERCK; SATIN BEAUTY AT GLENTRESS, PEEBLESHIRE. — I would like to record the capture of *Eupithecia distinctaria* H.S. (one specimen on 6/7-7-83) and *Deileptenia ribeata* Clerck (one on 16/17-8-83) in the Rothamsted Insect Survey light trap at Glentress (Site No. 339, O.S. grid rif. N.T. 285 396). The identity of both specimens was confirmed by examination of the genitalia. So far as I know, neither of these species have previously been recorded for Peeblesshire.

Thanks are extended to Mr. D. Solway who operates the trap at Glentress and Mr. B. Skinner for his helpful comments on the distribution of these two species. — A. M. RILEY, Entomology Department, Rothamsted Experimental Station, Harpenden, Hertfordshire.

LASIOCAMPA TRIFOLII L. GRASS EGGAR IN SOMERSET. — As neither R. South (1980 edition) nor B. Skinner (1984) mention

Somerset as within the distribution of the Grass Eggar, it may be worth placing the following on record. In June 1983, my family and I found a caterpillar of this species in an area of long grass among the dunes at Berrow, Somerset. It was taken home and from it I successfully reared a female which emerged on August 11. The moth was taken back to the dunes and released after being photographed. — B. E. SLADE, 40 Church House Road, Berrow, Somerset.

Current Literature

The Scythrididae (Lepidoptera) of Northern Europe by Bengt Å. Bengtsson. 137pp., 136 illustrations (including 40 in colour). Decorated hard cover. Fauna Entomologica Scandinavica Vol. 13. E. J. Brill, Oude Rijn 33a, Leiden, The Netherlands. 1984. 50 guilders (about £12.50).

We heartily welcome this latest addition to an excellent series, and the third volume to be published on the Lepidoptera. Of the other two: *The Sesiidae of Fennoscandia and Denmark* by M. Fibiger and N. P. Kristensen appeared in 1974; and *The Elachistidae of Fennoscandia and Denmark* by E. Traugott-Olsen and E. Schmidt Nielsen in 1977. The present volume deals with the 36 species of Scythrididae so far recorded from Denmark, Finland, Norway, Sweden, Great Britain, Holland and Poland, and most of the species from Germany, Belgium, Czechoslovakia and western Russia north of latitude 50°. As in previous volumes the book is printed throughout in English.

Preliminary pages (pp.9-26) cover: (1) Abstract; (2) Introduction; (3) Morphology of adult Scythrididae; (4) Immature stages; (5) Bionomics; (6) Systematics and Classification; (7) Genera within the Scythrididae; (8) Zoogeography; and (9) Technical remarks. Then follows the main part of the work, beginning with a key to the species of *Scythris* and details of each of the 36 species, including synonyms, references, description of imago, details of genitalia, distribution, biology and larval descriptions (when known), notes on nomenclature with some species and critical remarks on synonymy and occasional references to type locations. The figures of the imagines in the coloured plates drawn to an approximate 6.5x enlargement are exceptionally well executed, and together with the clear line drawings of enlarged wing venation and genitalia should greatly facilitate identification.

There is a tabular catalogue indicating in which countries, and in the case of Scandinavia, the provinces from which each species has been recorded. In this, *Scythris ericetella* Hein. is accorded British status, but so far as we are aware it has never been found in Britain. On the other hand, the striking orange-marked *S. sinensis* Feld. & Rog. has been found in Britain, though only very recently recorded as such. A list of 144 bibliographical references and an index, completes this fine monograph. — J.M.C.-H.

P. torquillella Zell.

Ballaglass Glen and Douglas, tenanted mines and spinings on *Prunus spinosa*.

Phyllonorycter quercifoliella Zell.

Ballaglass Glen, vacated mines on *Quercus*.

P. messaniella Zell.

Churchtown, tenanted mines on *Quercus ilex* from which adults were reared; Ballaglass Glen, an adult and mines on *Q. robur*; Dhoon Glen, mines on *Fagus*.

P. trifasciella Haw.

Ballaugh Curraghs, one tenanted mine on *Lonicera*.

P. geniculella Rag.

Ballaglass Glen, tenanted and vacated mines on *Acer pseudo-platanus*.

YPONOMEUTIDAE

Argyresthia goedartella L.

Dhoon Glen, one adult. Recorded also by Bond.

A. pruniella Clerck

Crosby, one adult. Recorded also by Bond.

Zelleria hepariella Staint.

Ravensdale, one in m.v. trap. Recorded also by Bond.

Ypsolopha vittella L.

Ravensdale, several in m.v. trap.

COLEOPHORIDAE

Coleophora gryphipennella Hbn.

Douglas and the Ayres, vacated cases and fresh larval feeding on *Rosa*.

[*C. serratella* L. (*fuscedinella* Zell.)

Ballaglass Glen, Glen Helen and Ballaugh Curraghs, vacated cases and old larval cases on *Betula* and *Alnus*. This is thought to be the species listed by Chalmers-Hunt as *Coleophora nigricella* Steph. = *fuscedinella* Zell. and is therefore not new to the Manx list. It is included because *C. nigricella* is not synonymised with *C. serratella* in Kloet & Hincks (1972), but with *C. coraci-*

pennella Hbn. and (as misidentification) *C. cerasivorella* Packard, neither of which species is recorded from the Isle of Man.]

C. viminetella Zell.

Crosby, tenanted cases on *Salix*.

C. laricella Hbn.

Ravensdale, one vacated case on *Larix*.

C. virgaureae Staint.

Glenmaye, tenanted cases on *Solidago virgaurea*.

ELACHISTIDAE

Elachista alpinella Staint.

Ballaugh Curraghs, a few adults.

OECOPHORIDAE

Agonopterix yeatiana Fabr.

Jurby Head, one in m.v. trap.

GELECHIIDAE

Teleiodes fugitivella Zell.

Ravensdale, one in m.v. trap.

MOMPHIDAE

Batrachedra praeangusta Haw.

Ballaugh Curraghs, a few in m.v. trap.

Mompha raschkiella Zell.

Crosby and Ballaugh Curraghs, vacated mines on *Epilobium angustifolium*.

TORTRICIDAE

Croesia forsskaleana L.

Ravensdale, several in m.v. trap.

Acleris laterana Fabr. (*latifasciana* Haw.)

Ravensdale, Ballaugh Curraghs, Crosby and Glen Mona, adults fairly common. Recorded also by Bond.

Apotomis semifasciana Haw.

Ballaugh Curraghs, one in m.v. trap.

Endothenia marginana Haw.

Ballaugh Curraghs, one adult.

Ancylis geminana Don.

Ballaugh Curraghs, larvae fairly common on *Salix*. Recorded from the same locality by Bond.

A. myrtillana Treits.

Dhoon Glen, larvae at roadside on *Vaccinium myrtillus*.

Epinotia ramella L.

Ballaugh Curraghs, one adult. Recorded from the same locality by Bond.

E. nisella Clerck

Ballaugh Curraghs and Crosby, common. Recorded from the former locality by Bond.

Zeiraphera ratzeburgiana Ratz.

Ravensdale, one in m.v. trap.

Z. diniana Guen.

Ravensdale, several in m.v. trap.

PYRALIDAE

Phycitodes maritima Tengst. (*carlinella* Hein.)

Andreas, larvae in heads of *Senecio jacobaea*; adults reared.

DREPANIDAE

Drepana falcatoria L.

Ballaugh Curraghs, larvae on *Betula*. Recorded also by Bond.

GEOMETRIDAE

Serraca punctinalis Scop.

The specimen on which the record given by Chalmers-Hunt (*loc. cit.*) was based was examined and found to be female *Alcis repandata* L. *S. punctinalis* should therefore be deleted from the Manx list.

NOCTUIDAE

Amphipyra pyramidea L.

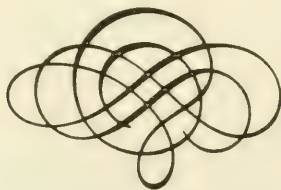
"I have had no opportunity as yet of checking Manx *Amphipyra* for the recently separated *A. berbera* Rungs" (Chalmers-Hunt, *loc. cit.*). It follows that *A. pyramidea* has not been confirmed either, but this we did.

Amphipoea lucens Freyer

Ballaugh Curragh, one in m.v. trap. Recorded from the same locality by Bond.

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with the assistance of

A. A. ALLEN, B.SC., A.R.C.S.

NEVILLE BIRKETT, M.A., M.B.

S. N. A. JACOBS, F.R.E.S.

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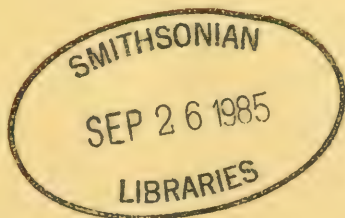
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COMMENTS ON THE LIFE HISTORY OF THE
ELEPHANT HAWK-MOTH, *DEILEPHILA ELPENOR* L.
(LEP: SPHINGIDAE)

By B. K. WEST, B.Ed.*

The earlier entomological textbooks tend to specify a predilection by *D. elpenor* for wet habitats, and the larval foodplants listed support this. Barrett (1892-1900) gives *Epilobium hirsutum* as the main foodplant, Tutt (1902) writes "the sides of ditches are the favourite haunts of *C. elpenor* — on *Galium palustre*, etc." and "the larvae of *C. elpenor* appear to prefer *G. palustre* before all other foodplants," Newman (1874) states "feeds on the large willow herb, which is so common on the sides of ditches, also on ladies' bedstraw, and sometimes in gardens on fuchsias," and South (1906) writes "chiefly on *E. hirsutum* and on bedstraws especially the kind (*G. palustre*), growing by the side of brooks and streams." For France and Belgium Lhomme (1923-1935) lists only *E. palustre* and *E. hirsutum* of the willowherbs, and the drawings in Buckler (1891-1899) portray the larvae upon *G. palustre* and *E. hirsutum*.

By contrast I became acquainted with *elpenor* larvae in the 1930s on the gravels of Dartford Heath and the chalk around Greenhithe, dry habitats in the driest part of Britain, and I found them only upon the rose-bay willowherb (*Epilobium angustifolium*); also during several summers about 1950 Mr. C. Rivers and I frequently searched the bedstraws on Dartford Heath, finding larvae of *D. porcellus* L. and *Macroglossum stellatarum* L. in plenty, but never *elpenor*.

In the early 1970s *elpenor* was a much commoner moth at my garden m.v. light than expected in view of the lack of *E. angustifolium* in the immediate vicinity, but in 1972 the problem was solved when I inadvertently discovered by touch a caterpillar at the base of a plant of *E. parviflorum* whilst weeding, others being found subsequently. None of those I found was readily observed, being located near the base of the plant and well concealed by vegetation. Now *E. parviflorum* had been noted as a larval foodplant of *elpenor* by Tutt (1902) yet rarely mentioned subsequently, and at the time of publication Chalmers-Hunt (1968) had no record for this foodplant, although K. and E. Evans (1973) state that at Mitcham Common and Croydon *elpenor* larvae have been noted on this plant more commonly than upon *E. angustifolium*. More recently, on September 4th 1981 and subsequently I have found the larva on the most recent invader of my garden, the American *E. adenocaulon*, and for this plant I can find no previous reference regarding *elpenor*.

A phenomenon well publicised at the time was the abundance of *elpenor* larvae on the derelict bomb sites in London where they

*36 Briar Road, Bexley, Kent.

were dependent upon the rapid colonization of these sites by willow-herb, especially the rose-bay. Although usually on London Clay the accumulation of rubble made them essentially dry habitats in Summer.

The rose-bay and some of the smaller willowherbs have undergone a population explosion in recent decades, although perhaps surprisingly for Kent, Hanbury and Marshall (1899) list *E. angustifolium* as occurring in all districts and frequent in most of them, and *E. parviflorum* and *E. montanus* as very common. However, elsewhere a different picture emerges. Salisbury (1961) states that the rose-bay was in general regarded as an uncommon plant in Britain until the present century, and in particular it was a scarce species in Hertfordshire half a century ago, although now it is an abundant one, and despite it being a common wild flower in London to-day it was infrequent at the beginning of the century. The American alien, *E. adenocaulon*, too has shown a remarkable increase since 1930, and Walters in Perring (1974) remarks that in Cambridgeshire "as an undergraduate I knew only *Epilobium roseum* as a street weed when now the American alien *E. adenocaulon* is by far the commonest willowherb."

It is not easy to obtain an accurate assessment of the larval foodplant preferences of *elpenor* because it is much more readily found on some than others, and especially because we give more attention to some and tend to neglect others of the extensive list of foodplants recorded which cover about a dozen botanical families. Today the insect is known to be associated with a wide range of habitats, apparently wider than formerly, to include stream sides and marshes, heath and woodland, gardens, urban and rural wasteland, sea-cliffs, road margins and railway embankments. In N. W. Kent I have found the larvae on *E. angustifolium* and *E. parviflorum*, mainly the former, and only occasionally on other species of willow-herb. I have frequently searched *E. hirsutum*, but only once found a caterpillar, and the bedstraws of Dartford Heath without success, but unfortunately have neglected to pay attention to such plants as enchanter's nightshade and evening primrose.

Chalmers-Hunt (1981) refers to the larvae feeding "commonly on enchanter's nightshade (*C. lutetiana*) in the City of Canterbury" and "often on *I. glandulifera* in gardens at Tunbridge Wells" indicating distinct local preferences within the county, but it is not clear if these were but transient or of a more permanent nature. Similar local preferences have been noted in entomological journals, thus for Staffordshire Clarke (*Entomologist* 80:68) emphasizes a decided preference for *E. hirsutum*, *E. parviflorum* and *G. palustre*, with very few on *E. angustifolium* despite intensive search, and all the larvae being in the vicinity of streams.

Johnson (*Ent. Rec.* 65:72) writing of Derbyshire relates that he found 72 larvae on *E. angustifolium* on low-lying wasteland, but

none in the woods and on the moors, also suggesting a habitat preference. For Hampshire Goater (*Ent. Rec.* 67:251) states that on roadsides near Chandlers Ford the "small willowherb" is preferred to *E. angustifolium*, a similar trend to that noted earlier for N. E. Surrey.

D. elpenor would appear to have the unusual distinction among our native moths of having extended its range considerably, especially northwards, and to have become commoner generally, over the past fifty years. A major factor of these trends seems to have been the increase and spread of one of its favourite foodplants, *E. angustifolium*, and some of the smaller species of *Epilobium*. Hulme (*Ent. Rec.* 69:237) states that for Derbyshire *elpenor* was rare before 1930, but was much commoner in the 1950s. For Berwickshire (*Ent. Rec.* 66:286) Long reveals that Bolam had only five records for over a century, whereas now the moth occurs throughout the county. The recent spread of *elpenor* into the Highlands of Scotland and Hebrides has been the subject of notes in this journal, e.g. common in Glengarry, W. Inverness-shire in 1977 by Howard (*Ent. Rec.* 90:259) and the first record for Canna in 1977 by Campbell (*Ent. Rec.* 89:255).

The time of appearance of the moth is given in the standard textbooks, i.e. Newman (1874), Barrett (1892-1900), South (1907), Newman and Leeds (1913) and Heath (1979), as June, with mention in three of the works of an occasional second brood. Now this is curious as June could not be described as a reasonable description of the moth's time of appearance to-day. During the past sixteen years *elpenor* has been noted at my garden m.v. light on 140 occasions, usually singly — 23% in June, 69% in July, 8% in August and none in May. Analysis of the figures into ten (eleven) day periods produces the following — figures denoting the number of visits, and in brackets the number of nights with light operating:

June 1-10: 0 (72)	June 11-20: 10 (69)	June 21-30: 22 (74)
July 1-10: 35 (97)	July 11-20: 33 (85)	July 21-31: 28 (86)
Aug. 1-10: 10 (56)	Aug. 11-20: 0 (70)	Aug. 21-31: 0 (71)

These figures indicate that here *elpenor* is essentially a July moth, but appearing from mid-June until early August. The figures for early August, and to a lesser extent early June, may be significantly depressed because of the light being operated on fewer favourable nights due to my more frequent absence at these periods. However, although these records indicate that *elpenor* has not been noted before June 12th, I possess specimens dated May 27th 1964 and June 8th 1965 from Dartford Heath, little over a half mile away, and I have encountered the moth in late May elsewhere in Kent. Thus in N. W. Kent *elpenor* appears to fly from late May until about August 10th in one extended brood, and especially in

late June and throughout July, but the period will vary according to the weather conditions and the micro-climate of its habitat.

When *elpenor* is bred the moth very occasionally emerges the same year, and in nature similar emergences give rise to the occasional specimen seen in September: the only examples of which I am aware are as follows:—

(a) de Worms (*Ent. Rec.* 73:241), Sept. 13th 1961 at Woking, "I was surprised to find an Elephant Hawk in my trap here, most probably a second brood specimen as the last one I had recorded from here was on 12th July."

(b) ffennell (*Ent. Rec.* 87:277) at Winchester Sept. 22nd 1975, "it was a surprise to find a specimen of this species in my trap this morning."

(c) Sept. 10th 1980 at Dartford, seen by myself. The moth was a perfect specimen at the base of a street light.

(d) Lipscombe (*Ent. Rec.* 79:25) records finding a caterpillar beside a patch of *E. roseum* at Warminster, Oct. 24th 1966, noting this "as an extraordinarily late date for the larva."

Chalmers-Hunt (1968) lists three Kent records for the first half of August as illustration of a partial second brood; however these specimens occur within the normal span of the main brood.

Duddington and Johnson (1983) states "the imago can be found over a long period with fresh specimens emerging from June into the Autumn," a statement hardly substantiated by the revelation of three records for late June. Records of this insect for Autumn, or even any time from mid-August, would have been most useful and interesting especially from a county as far north as Lincolnshire, but without evidence the statement must be treated with scepticism.

There are numerous references to the feeding habits of the imago, especially at honeysuckle (*Lonicera periclymenum*); in N. W. Kent I have most frequently found it imbibing at the flowers of white and bladder campion (*Silene alba* and *S. vulgaris*) and less frequently at those of red valerian (*Centranthus ruber*).

Despite this insect having become commoner, at times the larvae have been found to be heavily parasitized, e.g. Owen (*Entomologist* 84:268) cites 70% of larvae on bomb sites in London being host to Diptera and Hymenoptera, including *Amblyjoppa laminatoria* L. By contrast of the many larvae I have collected around Dartford over the years all have produced moths.

Seven species of hawk-moth have appeared at my garden m.v. light since 1969; their relative frequency has been as follows:—*Laotoë populi* L., 250; *C. elpenor* L., 140; *Smerinthus ocellata* L., 56; *Mimas tiliae* L., 39; *Sphinx ligustri* L., 11; *C. porcellus* L., 4; *Hyloicus pinastri* L., 1. The low incidence of *C. porcellus*, common less than a mile away on Dartford Heath, well reflects the greater restriction of habitat and larval foodplant of this species.

In conclusion, despite *elpenor* being a common and widespread insect, readily found as larva or imago, there is still much to be discovered of its natural history, especially regarding its time of appearance, its partial second brood, local larval foodplant preferences and its parasites, while any continued spread northwards will doubtless be reported.

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FURTHER RECORDS OF APOROPHYLA NIGRA HAW.: BLACK RUSTIC. — For some time, this moth has been extending its range into Kent, and elsewhere (Heath and Emmet, *The Moths and Butterflies of Great Britain and Ireland*, Vol. 10). In 1984, I saw the species for the first time at East Malling when a single moth came to m.v. on 16th and 25th September, followed by further solitary specimens on 15th and 17th October. About five miles south of here, at West Farleigh, I found another *nigra* at rest on a pole in a hop garden on 1st October.

Heath & Emmet (*op. cit.*) also give *nigra* as being rather rare in the Midlands, so I was pleased to record more specimens, again for the first time, at Beoley, Worcestershire, where four moths came to m.v. in my parent's garden on 9th October 1984. — D. A. CHAMBERS, 15 Briar Close, Larkfield, Maidstone, Kent.

A DAY ON THE WHITE MOUNTAIN

By DR. C. J. LUCKENS*

Out of the forest fleece of northern New England the White Mountains rise to their highest point among the jumbled boulders of Mount Washington. These ancient weathered mountains hold two butterflies found nowhere else in eastern U.S.A. — *Oeneis melissa semidea* Say, the White Mountain butterfly and *Clossiana titania montinus* Scudder, the White Mountain Fritillary. Though both insects are represented elsewhere in America, in the Rockies and the far north, (*titania* is, of course, holarctic) the populations in the White Mountains have been isolated for millenia and have produced two very distinct races.

In early July 1981, while staying with my wife's family on Martha's Vineyard Island, Massachusetts, I had the opportunity to visit this area. Leaving early in the morning I travelled by ferry and coach to Portland, Maine, where I picked up a hired car and soon found myself driving through the rolling forested country N. W. of the city. There had been a heat wave for several days in the eastern states and this continued, in the lowlands at least, throughout my trip.

Just beyond Gorham I glimpsed an open wooded path leading off from the main road towards a stream and decided to stop to see what might be flying in the afternoon sun. The first butterfly to appear was a *Nymphalis antiopa* L., flying around a patch of milkweed at the path entrance and this was soon joined by two or three of the large fritillary *Speyeria cybele* Fab. The *antiopa* had probably developed on a neighbouring elm as the leaves of several benches had been stripped to the midrib and there were remnants of shed larval skins. Broods of these black, spiny, crimson-spotted caterpillars were a feature of our visit to the States that year and I had already reared a large number of imagines from colonies found on *Salix* and elm on Martha's Vineyard. On this particular elm tree I collected a full grown larva of one of the Comma butterflies that the Americans appropriately call "Angle-wings" — the largest member of this genus in N. America in fact — *Polygonia interrogationis* Fab. Then, as I stood searching the elm leaves, a magnificent white-barred butterfly floated down and settled on a bush in front of me. This was *Limenitis arthemis* Drury, a species typical of the northern woods, and one I had long wished to see. Unfortunately nearly all the specimens netted during the trip were disappointingly chipped and this one was no exception.

Before leaving I took a male *Celestrina argiolous pseudargiolous* Boisd. & Le. C. from among the numerous examples present and also two yellowish skippers. These latter specimens turned out

*Swallowfield, Manor Road, Durley, Hants. SO3 2AF.

to be *Atrytone delaware* Edwards. The reference books state that the range of this skipper extends only to Massachusetts in the eastern states. I drove on to Cornish where I spent the night in a hotel otherwise empty of visitors.

The heat was already intense the next day as I drove in the bright morning sun through the Maine Woods. I inspected a 'White' fluttering beside the road hoping for the indigenous American form of *Pieris napi* L., but it was merely the alien *P. rapae* L. A little further on between Brownfield and the New Hampshire border I stopped at a rough, bushy meadow full of Fritillaries and *Colias* with a sprinkling of *N. antiopa* and *L. arthemis*. I netted a worn 1st brood *Limenitis archippus* Cram. (the butterfly that mimics the Monarch), and there were good numbers of *Cercyonis pegala* Fab. intermediate between the yellow-marked ssp. *maritima* Edw. of southern New England and the nearly unicolorous, northern ssp. *nephele* Kirby. This Satyrid butterfly exhibits a steep cline, as in Martha's Vineyard and throughout southern New England *maritima* occurs, whereas only two hundred miles north in coastal Maine it is entirely replaced by *nephele* in which the yellow patches have disappeared.

I watched a Mourning Cloak flying in the dappled sunlight of the forest edge where tree-stumps jutted. Suddenly a large tawny butterfly flitted out in challenge and then resettled on one of the cut trunks. I realised I was looking at a fresh *Nymphalis Vau-album* D. & S., its foxy-brown golden haired wings spread in the sun. It was inevitable that I should miss this highly desirable butterfly on its irregular tree stump but a few minutes later another *Vau-album* settled in the road before me and was easily captured. Two specimens were spotted flying furtively around a shady culvert below the road. I descended the bank to investigate and found four *Vau-album* and two *Polygonia faunus* Edwards sheltering within the drainage pipe.

A few hundred yards further along the forest road was a layby of packed earth and stones surrounded by trees on three sides and outposted by two large dead beeches. Settled on damp spots on this partially shaded area and flying around the trees were no less than 11 *Vau-album*, two *antiopa* and a *Polygonia faunus*. There is an indelible picture in my memory of that assembly of butterflies in the extraordinary heat of the northern forest — the dark, closed wings of the great *Nymphalids*, their yellow probosces extended for moisture under the pebbles, the silence of that still morning broken only by the hum of insects and the occasional drum of a Woodpecker or rasping screech of a Blue Jay.

Reluctantly I left this locality, driving through the sunlit woods to Conway, just over the New Hampshire border. A notice outside a breaker's yard here stated baldly "Trespassers will be shot," but the tourist office was a little more friendly, and armed with a large

scale map I drove on into the foothills of the White Mountains to the base of Mount Washington itself. Here a Forest Ranger told me that conditions at the summit were not favourable, with cloud and high winds — very different from those in the sun-filled valley. I decided to find food and lodging nearby therefore, and tackle the mountain the following day.

In the morning prospects looked good and by 9.30 I was exploring the lower slopes of Mount Washington. *Limenitis arthemis* sailed among the aspens and *Papilio glaucus* L. and a large fritillary, *Speyeria atlantis* Edwards were both frequent. Broods of *N. antiopa* were noted on *Salix* bushes — at earlier stages of development as the altitude increased.

Above the tree line I started searching for the two 'target' species. With startling suddenness great banks of mist rolled across from the north and, within minutes, enveloped the whole mountain above 4,000 ft. Disconsolately I made my way to the summit and sat in the observatory restaurant while outside swirled thick, saturating mist and the temperature dropped. After two hours waiting I decided to cut my losses and started down the mountain. Visibility was reduced to a few yards until just above 4,000 ft. where the cloud cover ended abruptly and I re-entered the sunlit world of the lower slopes. *Clossiana titania* was still a possibility here, just below the tree line, but a diligent search failed to reveal it. While talking to a worried motorist whose car had overheated I noticed a *Nymphalis Vau-album* which landed beside us on the ground. A careless movement, the fine butterfly flew off, and I reflected how chagrined I would have been if that had happened two days before!

A glance at the mountain above showed the mist rolling back a little. With high hopes I started upward again, looking constantly for *titania*. For another hour I searched without success and then a brisk N. E. breeze sprang up and the rags of cloud were swept away from the summit. I raced up to a plateau a few hundred feet below the observatory car park and in the weak sunshine suddenly had my first glimpse of one of the butterflies I had come so far to see — *Oeneis melissa semidea*. The pale greyish-brown butterflies flitted up from the tussocks and boulders on a steep S. W. facing slope, occasionally flying over the plateau itself.

Every so often a trailer of cloud would obscure the sun and as soon as this happened they disappeared in the manner of mountain butterflies everywhere. Once or twice, after carefully marking the landing place of *melissa* among the boulders I attempted to capture the insect at rest. On my approach the butterfly did not attempt to fly but with closed wings dropped like a stone into a crevice, and further interference merely caused it to drop deeper into the jumbled rocks. This interesting evasion technique was

described for the species by S. H. Scudder as far back as 1889. A total of perhaps 20 minutes sunshine allowed me to take a small series of these fascinating butterflies before the weather finally closed in again.

In typically friendly American fashion, a waitress at the hotel had taken an interest in my butterfly hunt and on my return that evening she enquired about my search on Mount Washington. She found it hard to conceal her disappointment when I brought out the collecting boxes containing the dullwinged but subtly mottled butterflies. I fear she expected an insect of shining splendour from the highest mountain in the eastern U.S.A.

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A LOCAL AND UNUSUAL FORM OF *LOPHOPTERYX CAPUCINA* L.: COXCOMBE PROMINENT. — At Grantown-on Spey, Moray, on July 9th 1984 a number of this species were attracted to m.v. light; they were mainly well marked and of a rich mahogany hue, but one was a pale yellowish brown with only faint markings, and was far paler than any *capucina* I had previously encountered. This specimen was later identified as form *pallida* Gillmer, of which eight specimens reside in the National Collection. Of considerable interest is that all these specimens were from the Highlands of Scotland — Aberdeenshire (3), Perthshire (2), Sutherland (2) and Moray — taken between 1893 and 1938. South was evidently aware of this form, for in *Moths of the British Isles*, (1939) he describes Scottish specimens as 'varying in colour from dusky brown, through reddish to pale yellowish brown.'

The most significant aspects of this pale form are its apparent restricted distribution and that it is in complete contrast with the normal tendency towards melanism in this region, as exemplified by such species as *Phragmatobia fuliginosa* L., *Spilosoma menthastri* Esp. and *Plemyria bicolorata* Hufn. On the other hand this pale form of *capucina* is perhaps paralleled by the pale Highland form of *Drepana falcataria* L. *L. capucina* form *pallida* would seem to be quite rare in the Highlands of Scotland, the region to which it is apparently restricted in Britain. — B. K. WEST, 36 Briar Road, Bexley, Kent.

BRITISH ORTHOPTERA IN 1984

By J. PAUL, F.R.E.S.*

Being sun-loving insects — the British species having a more marked preference for the South than other orders — 1984 has been a very favourable year for the Orthoptera, some of the rarer species occurring in abundance. Furthermore, some common species were discovered in areas well outside their previously known ranges.

After an unremarkable winter, the weather around Easter was exceptional, it being dry and sunny with temperatures rising to 70°F. This is the time of year when our three *Tetrix* sp. reappear after hibernating as adults.

I drove down to the New Forest on 13 April and found *Tetrix ceperoi* Bolivar to be abundant around the margins of pools at Crockford Bridge. *T. ceperoi* is a local insect, confined to localities close to the south coasts of England and Wales. Specimens from the New Forest are quite variable: many are of a monotonous grey tint; others are dark, ruddy or bear contrasting patterns of grey, white or brown; some greenish, but generally as a result of the algae coating them. The insects were active in the warm weather, many taking to the wing when disturbed or hopping into the pools to swim away underwater. Later in the morning, I continued to the coast to find fair numbers of *T. ceperoi* at Hordle Cliff on almost bare ground near damp seepages and reed beds on the cliff edge. Specimens from Hordle Cliff were not very variable, all the ones I found being an attractive pale, mottled grey, similar in colour to the ground they live on. During the afternoon I took the more bulky *T. subulata* L. on a river bank near Britford, Wilts.

Tetrix subulata has a wider distribution than *T. ceperoi*. It may be found in a variety of damp habitats over much of southern England and South Wales. Recently it was reported from a site in North Wales, well outside its known pattern of distribution. I visited the locality on 28 April. Here, the habitat consists of sparsely vegetated gravel banks by the River Dee, which must be exposed to regular flooding. The insect was especially common at a place where rock ledges form tranquil pools by the river bank, contrasting with the fast flow of the river. Some specimens of *T. subulata* were taken from these pools, where they were submerged amongst mats of algae. Some large specimens of *T. undulata* Sowerby were taken from the river bank also. Specimens of *T. subulata* from the Dee were large and all that were seen were of the normal form with a fully developed pronotum.

Mike Bryan, of Birmingham Museum, informed me that he had taken *T. subulata* at Monk Wood, Worcs. in 1983, although he had lost the specimen. This constitutes the first record for the county

*156 Tiverton Road, Selly Oak, Birmingham 29.

north of Worcester. On 29 April I made a point of finding further localities. *T. subulata* was common on mud by a lake near Sinton (SO/839627) and a single example was taken from the bank of the River Teme near Stanford Bridge. All were of the normal form.

On 7 May I was on the Gower peninsula. *T. ceperoi* was very abundant in a clearing amongst pines on the Whiteford Burrows dune system. I estimated that there was an average of 10 individuals per square meter and that the clearing was about a thousand square meters in area. Many of the *T. ceperoi* had delightful contrasting patterns of grey, brown and white, the term 'diamond-back' suggesting the appearance of the pronotum. Some nymphs of the grasshopper *Myrmeleotettix maculatus* Thunberg were also present. I could not find *T. ceperoi* elsewhere on the dunes.

On 6 June I was heading for the South-east. Stopping briefly at Ot Moor I took *T. subulata*. About half the specimens were of the form *bifasciata*. The following morning *T. subulata* was found again on the muddy banks of the River Arun where the dragonfly *Libellula fulva* Mueller was on the wing. During the late afternoon, both *T. subulata* (including *bifasciata*) and *T. ceperoi* were found on gravel around ponds in the Rye area, which ponds provide a home for the introduced marsh frog. This was the first time I had seen a mixed population of these two groundhoppers. On 16 June, *T. subulata* was found in Norfolk on a fen near Barton Broad and in dune slacks at Winterton. However, the Swallowtail was a rather more appealing sight than groundhoppers that day.

By late June the vegetation is dense making it difficult to locate the *Tetrix* spp. It is at this time of year that the remaining British Orthoptera are beginning to make their appearance as adults. Whilst groundhoppers are mute, almost all the other British Orthoptera stridulate. I heard the continuous ticking song of *Omocestus viridulus* L. in Wyre Forest on 30 June, when the High-brown and Silver-washed fritillaries were starting to emerge.

Whilst out looking for Odonata on July 1 in Cheshire and Shropshire, I heard my first adult *Myrmeleotettix maculatus* Thunberg of the season at Abbots Moss and Whixall Moss. *Tetrix undulata* was present at both sites in various stages of growth. Adult *Ch. parallelus* and *O. viridulus* were heard at Whixall. Unusually I did not notice the nymphs of the Bog bush-cricket, *Metrioptera brachyptera* L.: it is often abundant at Whixall. I was relieved to see that insect life had not been severely disrupted by a fire which occurred in April: *Coenonympha tullia* Mueller and *Leucorrhinia dubia* vander Linden were both on the wing.

On July 7, I was in Warwickshire. At Stockton Cutting I saw my last over-wintered *T. subulata* (a single male f. *bifasciata*) for 1984, since the majority would have died off by then. The common field grasshopper, *Chorthippus brunneus* Thunberg and meadow grasshopper, *Ch. parallelus* Zetterstedt were singing. I was surprised

by an abundance of *Ch. albomarginatus* Degeer at Ufton Fields. A recent survey (Copson, 1984) has shown that this grasshopper is widespread in this central English county. *Ch. albomarginatus* is a species that I had previously thought of as being coastal and estuarine. At Ufton it is equally at home amongst sedges and on dry limestone grassland where bee orchids grow.

The evening of 20 July, I drove to Bristol, my former home. The Dark bush-cricket was abundant amongst nettles in the Avon Gorge. The following day, I continued to the south coast, stopping on the way at Walton Hill, Somerset. Where the downland meets a woodland border, I saw the highly attractive Rufous grasshopper, *Gomphoceripus rufus* L. with its white-tipped, clubbed antennae.

About mid-day I reached Sopley Common. On a heathy knoll, the rare Heath grasshopper, *Ch. vagans* Eversmann was singing. I have noticed that it is on the southern slopes of such dry, heathy knolls in Hants. and Dorset that *Ch. vagans* becomes the dominant grasshopper. Indeed, it was the only grasshopper present over large areas of the heather. The local tiger beetle, *Cicindella sylvestris* also seemed to be confined to the top of this knoll. Lower down the slope where *Erica cinerea* gave way to *E. tetralix* and bog plants, *Ch. vagans* was absent, but there was an abundance of *M. maculatus*, *Ch. parallelus*, and *M. brachyptera*. In the afternoon, I revisited Crockford Bridge. It was now impossible to find *T. ceperoi* here. Wood crickets, *Nemobius sylvestris* F. were singing in the thickets between the ponds. Later still, I headed for the Solent, where three characteristic estuarine species were in evidence by their song: the Lesser marsh grasshopper, *Ch. albomarginatus* Degeer, the Short-winged conehead, *Conocephalus dorsalis* Latreille and the Roesel's bush-cricket, *Metrioptera roeselii* Hagenbach.

On 21 July I went to one of my favourite Cotswold sites, Stinchcombe Hill. On the warm downland there were plenty of *Ch. brunneus*, *Ch. parallelus* and *O. viridulus*. The attractive Stripe-winged grasshopper, *Stenobothrus lineatus* Panzer was about and conspicuous on account of its distinctive wheezy song. *M. maculatus* was more common on the rocky slopes. Chalkhill blue, Dark-green fritillary, Grayling and Marbled white were flying.

Although the Dark bush-cricket, *P. griseoaptera* Degeer is seemingly an ubiquitous insect in some southern counties, to the north of Birmingham it is something of a rarity and often hard to find. I visited the published Leicestershire site, Owston Wood on 29 August. A small but obvious colony was found in long grass on the southern edge of the wood but I could not find it in the woodland rides (Cf. Evans, 1970).

Whilst driving over Penkridge Bank, Cannock Chase on 5 August, I heard the song of *M. brachyptera* through my car window and stopped to find a good colony amongst grass in the roadside ditch. Others were found on the adjacent moorland (See Paul, in press. a).

The second annual study of the Warwickshire Orthoptera Survey was held on 11 August, on the Warks./Oxon. border. It was hoped that *G. rufus* and *S. lineatus* might be added to the county list, but none of the downs visited looked quite suitable for them. The grasshoppers, *Ch. parallelus*, *Ch. brunneus* and *O. viridulus* were all common. The most interesting site was Rough Hill near Epwell, Oxon. Four species of grasshopper were abundant on the top — *Ch. parallelus*, *Ch. brunneus*, *O. viridulus* and surprisingly, *Ch. albomarginatus* also. The habitat consisted of dry grassland with much gorse. At Traitor's Ford, Warks., there were nymphs of *T. subulata* and Mr. J. Hardman took the first of the new adults to be seen by me in 1984. Mr. Hardman showed me a grasshopper he had taken near Warwick in 1954, which turned out to be *Ch. albomarginatus* — the earliest known county record. He was also fortunate in beating an Oak bush-cricket, *Meconema thalassinum* Degeer, from ivy at Farnborough, Warks. — the only bush-cricket of the day.

Later in August, I visited a friend in Funtley, near Fareham, Hampshire. I was hoping to find the rare *Conocephalus discolor* Thunberg during my visit. On the morning of 18 August, both *C. discolor* and the more widespread *C. dorsalis* were found in plenty in long grass at Titchfield Haven. What was surprising was that *C. discolor* — which is usually a very scarce insect in Britain — outnumbered *C. dorsalis* by a considerable margin. Furthermore, whilst *C. dorsalis* was confined to reeds and grass at Titchfield Haven, *C. discolor* was abundant along the cliffs to the west of the haven for at least a mile or so and could be heard along the roadside when driving back to Funtley. At Funtley I heard three males stridulating in my friend's unremarkable garden. In wasteground at Funtley, *C. discolor* was the commonest of the Orthoptera; many of the all-brown form and the majority were of the very long-winged form mentioned by Ragge (1973). This latter form is usually rare and seems to be associated with periods of abundance. Other Orthoptera around the lake at Funtley were: *Ch. brunneus*, *Ch. parallelus* (including many of the macropterous form), *T. subulata*, *T. undulata*, *M. thalassinum*, and *P. griseoptera*. I was also pleased to find the spectacular spider, *Argiope bruennichii* here. Other Orthoptera at Titchfield Haven were *Ch. brunneus*, *Ch. parallelus*, *Ch. albomarginatus*, *Tettigonia viridissima* and *P. griseoptera*. Dr. Stephen Nicholls tells me that *C. discolor* was unusually abundant also in the New Forest, where it was found on heather near Beaulieu Road Station. Leaving Funtley I went to stay with a friend in Surrey, visiting Thursley Common on 19 August, where as well as the more widespread species, the Woodland grasshopper, *O. rufipes* and *M. brachyptera* were seen.

I left Surrey for a week's holiday in Scotland on 20 August. Whilst driving north through London I heard the characteristic

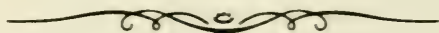
stridulation of *M. roeseli* near Wormwood Scrubs. The same evening I discovered a colony of *P. griseoptera* near Arnside (See Paul, in press. b). Most of my time in Scotland was spent on the Isle of Mull. *Ch. parallelus* and *O. viridulus* were both common and widespread on the island. On the adjacent Isle of Iona I took *M. maculatus* from hollows in the machair on the west coast of the island. Like my specimens from Barra, these Hebridean *M. maculatus* are distinctly smaller than specimens from heathland in southern England. A visit was made to Mr. Boyd Barr, who is now resident on the island. He showed me some splendid Hebridean Lepidoptera. Leaving Mull for the South, I stopped at Ravenshall Point, Gallo-way where *Ch. brunneus*, *O. viridulus* and *P. griseoptera* were seen.

There is an area of sandy heathland and peat bog near Clee Hill in Shropshire which has turned up some characteristic heathland dragonflies. Being suspicious that some corresponding Orthoptera might occur there, I visited the site on 2 September and was rewarded by finding the Bog bush-cricket, *M. brachyptera*, which is local in the Midlands. Miss H. M. Takes captured a female which has been deposited in the BM(NH). Other species present were *Ch. parallelus*, *O. viridulus*, *M. maculatus* and *T. undulata*. Later that night at 11 pm, *Ch. parallelus* and *P. griseoptera* were heard on the bank of the River Severn north of Bewdley, Worcs.

In an average year, the Orthoptera season lasts well into October in the Midlands: in 1981, for example, *M. maculatus*, *O. viridulus* and *Ch. brunneus* were heard on the Wrekin on the last day of October. The weather in September and October 1984 was cold, damp and overcast. The last native Orthoptera that I saw this year were a few *Ch. brunneus* in late September in Birmingham. Nevertheless, as I write in November, House crickets, *Acheta domesticus* L. can be heard around the Birmingham hospitals.

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NOTES ON A MASS OCCURRENCE OF
LEUCOMA SALICIS LINN. (LEP.:
LYMANTRIIDAE)

By DR. M. E. N. MAJERUS*

Having run one or two moth traps regularly all year round for the last 17 years, it is now rare for a night to produce anything really surprising. I still occasionally find species or varieties new to me, and particularly in May and early June after the long months of low catches, a warm, cloudy night always persuades me to rise expectantly at dawn, hopefully to see the first sphingids, notodontids and arctiids of the new high season. However, the morning of 17th July 1984 produced a phenomenon I have not come across before or heard reported.

I had been working very late, and as the night promised a good catch I decided to wait until dawn and retire to bed after scoring the catches of two traps, one a black-bulb Robinson run at my home at Bar Hill, some six miles N. W. of Cambridge, the other a standard Robinson run five miles away at the Field Station of the Department of Genetics, Cambridge University. The Bar Hill trap yielded a good catch but with nothing exceptional. However, as soon as I reached the Field Station trap it was obvious that something unusual had occurred overnight, for the ground around the trap was strewn with moths, of which about one fifth were *Leucoma salicis* (the white satin). In all I counted 157 of these moths in or around the trap.

The figures themselves are not unusual, for this trap often produces largish catches, and several species often occur in large numbers. For example, on the night in question there were 94 *Agrotis exclamatoris* Linn. and 87 *Apamea monoglypha* Hufn., while the total catch was 782 moths of 65 species. But the large catch of *L. salicis* had a number of unusual features.

Firstly, I have trapped in and around Cambridge for four years, and although present each year, *L. salicis* has never been particularly common. In 1981, six individuals, five males and one female, were recorded at the Field Station. In 1982 the count was seven male and one female, with two males also taken at Bar Hill and in 1983, again five males and one female were recorded. So the catch of 157 in one night was in itself exceptional. More unusual though, was the fact that these were the first *L. salicis* to be recorded this year. Usually the flight season of this species, as with so many others is such that the species occurs firstly in small numbers on a few nights, the numbers gradually increasing to a peak before tailing off again slowly. But in this case, following the night of the 17th, the numbers

*Department of Genetics, Downing Street, Cambridge.

of *L. salicis* at the Field Station were nightly, from the 18th July, 5, 19, 9, 2, 1, 2, 0, 0, 2, 0, 1, 2, 0, 1, 0, 1, 2, 0, 0, 0, 1, 1, 0, 1, 0, 0, 0, 1, so that by 16th August the season was over.

This initial mass occurrence at the Field Station contrasts with the occurrence of this species at Bar Hill where it was first present on 18th July (two males). Thereafter, the numbers each night were 0, 2, 0, 1, 4, 1, 0, 1, 3, 1, 0, 0, 1, 1, 1, with the last being recorded on 4th August. (From 21st July, a Heath Trap was used at Bar Hill, the black-bulbed Robinson being run by Peter Kearns in his garden in Cambridge, three miles S. E. of the Field Station. He recorded two male *L. salicis* on 26th July and a further male on 27th July.)

The third unusual feature was the sex ratio. Both sexes come to light, but in the past I have always found more males than females. So, for example, over my 17 years of trapping I have recorded 1064 individuals of *L. salicis* of which 841 (79.04%) have been males. Yet of the 157 recorded on 17th July, 104 (66.24%) were female.

On first reflection there appeared to be two possible explanations, but neither seems to quite fit the facts. The phenomenon could either be explained by a mass migration, or by a co-ordinated mass emergence. The idea of a mass migration is plausible, but I feel it would have to be fairly short range and local. Firstly, because *L. salicis* did not occur on 17th July at Bar Hill, which is after all only five miles away, and was on the night in question downwind on an albeit slight breeze. Secondly, were a migration of widespread occurrence, other reports would have been mentioned on the grapevine.

The possibility of a co-ordinated mass emergence could also explain the sudden occurrence of a large number of individuals, but I can see no explanation of the 2:1 sex ratio in favour of females in the data; and again the lack of a similar catch with respect to *L. salicis* at Bar Hill makes this explanation unconvincing to me. If any reader has had similar experiences with this or other species, or has any alternative explanation of these observations, I would be grateful to hear of them.

ETHMIA BIPUNCTELLA FABR. (LEP.: ETHMIIDAE) IN WILTSHIRE.

— A single male of this moth was taken at light at Dinton (VC8), on the night of 24/25 June 1984, possibly the first record of this species for Wiltshire. It may be worth noting that my wife had planted a border with *Echium vulgare* (Viper's Bugloss), the species' foodplant, obtained as very young plants from a friend in Durrington (VC8), who had raised them from seed. However, inspection of the plants has revealed no sign of the larva, so the moth may have originated from elsewhere. — S. M. PALMER, The Warren, Hindon Road, Dinton, Wilts.

TWO NEW ZEALAND STICK-INSECTS
NATURALISED IN MAINLAND CORNWALL

By STELLA M. TURK *

Two New Zealand species of phasmid, *Acanthoxyla prasina* (Westwood) and *Clitarchus hookeri* (White) are naturalised in Tresco Abbey Gardens, Isles of Scilly. They have been present in the Gardens for many years, and Uvarov (1944 and 1950) suggests that the colony of *Acanthoxyla* might have been established as early as 1907 when a large consignment of plants was imported from New Zealand by Major A. A. Dorrien-Smith. *Acanthoxyla prasina* was found at Paignton in 1908, 1950, 1962, 1975 and 1982 (Kirby, 1910; Rivers, 1952; Ragge 1973; Kennard, 1975; Haes, 1983) and it is recorded that plants from the Tresco 1907 importation had also been sent to Paignton. About 1959, some examples of *Acanthoxyla* were sent from Tresco to the late Mr. V. Heath of Riviera Gardens, St Mawes, Cornwall, and he deliberately released them with the idea of their becoming naturalised. They have now spread to various private gardens in St. Mawes (Turk & Turk, 1977) and in 1969 one was found in a garden at Bar Road, Helford Passage: after reading the account of this in the *West Briton* for 2.10.1969, Mr. Heath stated (*West Briton* 9.10.1969 and *in litt.*) that he had imported some Tree Ferns (*Dicksonia antarctica*) direct from New Zealand in 1967 and that one of these had been sold to a client in Bar Road.

Clitarchus hookeri has also been found in mainland Cornwall, first in Truro on a garden wall in 1979 (Turk & Turk, 1980) and since then at St. Mawes, on a few occasions, and also at Falmouth (Turk & Turk, 1982). In 1981 eight were found on a juniper bush at Mawnan Smith. The Truro record was the first for mainland Britain, although it was already known from the island of Ross-dohan in the Bay of Kenmare, S. Kerry (Ragge, 1965). At Falmouth it has so far been found in a single garden where the individuals were rounded up (as far as possible) in September 1981 after a Banksian Rose on which they had been feeding, was removed. Four females were given to Mrs. B. Watts of Penryn who had had experience of breeding insects for Worldwide Butterflies. She soon had a total 400 eggs, and with 100% survival rate, she was overwhelmed with young stick-insects the following spring. Those she could not give away to private individuals or schools, she released in her garden, although up to now (March 1984) she has no evidence that any survived out of doors. By contrast, Mrs. R. V. Wright was continuing to find stray individuals in her Falmouth garden; or to be more exact, they were found by her cat who brought in

*“Shang-ri-la”, Reskadinnick, Camborne, Cornwall, TR14 0BH.

ten insects between December 27th and 30th 1983. She noted that eight of the ten were brown; some selective factor would seem to be at work, because of the 600 reared by Mrs. Watts, only three were brown, and they were sickly and died before maturity. In February 1984, an individual of *Clitarchus* was sent to Dr. Ragge for checking and he commented on the virtual absence of the black line on the thorax which had characterised the few specimens in the British Museum (Natural History) collections from the Isle of Scilly. Certainly those who have observed the many specimens originating from the Falmouth colony have noted no obvious black line. Uvarov (1950) doubted if this was a very constant character, but Dr. Ragge suggests that its consistent absence may point to a separate origin from the Tresco colony; and we now know that there is a distinct possibility that Mr. Heath could have introduced them direct from New Zealand.

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RHEUMAPTERA UNDULATA L.: SCALLOP SHELL IN THE ISLE OF MAN — On 27th August 1983, about a mile from the town of Peel along Glenfaba Road to the Raggatt Plantation, by the disused track of the Isle of Man railway I found five larvae in sprigs of sallow fastened together with silk. From these moths emerged between 23.vi. and 1.vii.1984. The only previous record of occurrence of this species in Man appears to have been in 1972 (Bond, *Ent. Rec.* **97**:(7)). — R. F. HAYNES, Little Dorking, Mill Road, Killarney, Eire.

SCOPULA NIGROPUNCTATA HUFNAGEL:
SUB-ANGLED WAVE IN SUSSEX

By COLIN PRATT*

Restricted to Kent and Sussex, there have been only three singleton records of this insect from the latter county – at Hastings in 1876, at Milton Street in 1970 (Pratt, 1981), and at Ninfield in 1983 (Parsons, 1984). However, after the night of August 6th 1984 a male was found at rest near a Robinson m.v. trap in East Sussex by C. Robinson. Although no further examples were noted at this precise spot, despite continuous trapping, a very short distance away specimens were noted by the writer at light on August 17th, 18th (3), 19th and 20th, indicating the presence of a breeding colony. The first moths observed were in reasonable condition, the later ones worn. The species flew early, most being seen before 10 pm BST with none noted after 11 pm; they still flew with a cool ground temperature of 10 degrees Centigrade. No females were seen.

The insect was distributed along more than half a mile of a flowery east/west ride situated within a beech and pine plantation, the ride varying in width from 8 to 20 yards; the moth was very local and seemingly preferred a small bank of broken chalk – none could be found in rides, or parts of rides, which did not support numbers of varied flowers.

I understand that the foodplant of feral *nigropunctata* has never been unquestionably determined in this county. *Clematis* in England, and *Viola*, *Veronica*, *Vicia*, *Origanum*, and *Stachys* abroad, have been mentioned in the distant past (Barrett, 1902); Tormantil has also been associated with the insect (Chalmers-Hunt, 1960). All of these plant families are well represented within a mile of the site, including Tormantil, and most close by (Hall, 1980). Nevertheless, examination of the dozen most frequent low-growing plants existing where the insect actually flew revealed that only one plant belonged to those families previously mentioned as having supported the moth in parts of Europe – *Vicia tetrasperma* (L.) Schreb., the Smooth Tare.

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*5 View Road, Peacehaven, Newhaven, Sussex.

COLEOPTERA IN NORFOLK

By M. COLLIER*

Although the extraction and collation of published Norfolk coleoptera records is still in progress, it is hoped that it will not be premature to detail the occurrence of some of the more interesting species which, as far as I am aware, have not previously been recorded from this county.

Pterostichus angustatus (Duft.) — Roydon Common, TF 6821 (VC 28), 30.iii.84. Under a fence post lying on the edge of a ride separating a coniferous plantation from heathland. The heath has I believe been subject to fire damage in recent years. Although I have yet to find a published Norfolk record for this species, Dr. M. Luff informs me that he has received details of two separate captures in the Sheringham area (VC 27) in 1979.

Cercyon bifenestratus Kust. — Lopham Fen, TM 07 (VC 27), 9.ix.81. A single example of this rare species has been awaiting further examination since its capture and its identity has only recently been established. I am aware of records in only three other counties in recent years (Kent, Sussex and Warwickshire) although Joy (1932, *A Practical Handbook of British Beetles*) also cites Lincolnshire. I hope to look for further specimens in the near future but it would appear probable that the insect is either of rare occurrence or a recent colonist at this site because Pope (1969, *Trans. Suffolk Nat. Soc.* 14: 189-207) does not list it in his fairly comprehensive preliminary survey of coleoptera at these fens.

Trixagus obtusus (Curt.) — Billingford, TM 1678 (VC 27), 14.x.84. This diminutive throsoid was very nearly overlooked in the sievings of leaf litter from beneath a small oak on common land.

Carpophilus sexpustulatus (F.) — Norwich, TG 2108 (VC 27), 25.ix.83. Attracted to a *Cossus* sap run, first noticed by Dr. A. Irwin, on an oak in a large city cemetery. Other species present included *Aphodius contaminatus* (Hbst.) and various common nitidulids.

Ahasverus advena (Waltl) — Lopham Fen, TM 0579 (VC 27), 23.ix.84. Although long considered to be largely restricted to stored products in this country, I believe this species is not now uncommon in certain outdoor situations. My Norfolk specimens came from sieving mouldy hay at the base of a stack on the edge of the fen but I have also found it in abundance on mouldy grain, left out to feed game birds, at Thornham Park, Suffolk in 1983.

Cryptophagus schmidtii Stm. — Babingley, TF 6725 (VC 28), 28.iv.84. This apparently rare species was found on a rotting root

*67 Church Lane, Homersfield, Harleston, Norfolk, IP20 0EU.

vegetable at the edge of a manure heap in a farm yard. Unfortunately only a single specimen was present although sievings from nearby disused farm buildings have still to be sorted. Coombs and Woodroffe (1955, *Trans. R. E. S. L.* **106**: 237-282) failed to find this species themselves but quote references of its occurrence in granaries and a haystack.

Adistemia watsoni (Woll.) — Examples of this interesting little lathridiid were sent to Dr. E. A. Ellis, after having been found in abundance in a newly built bungalow at Wymondham (VC 27) in January 1985 (1985, *Eastern Daily Press*, Jan. 19). I have also obtained specimens from the same source. Previous records in this country have been summarized by Welch (1984, *Entomologist's mon. Mag.* **120**: 206) and it will be interesting to see whether the few recent records indicate the beginning of a spread in distribution, which should occur if the beetle is able to utilize the many situations in which other mould feeding Lathridiidae abound.

Cis alni Gyll. — West Harling Heath, TL 9883 (VC 28), 1.vii.84. Surprisingly there appear to be no previous Norfolk records for this species although the standard reference works do not indicate it to be of particularly rare occurrence.

Anthicus tobias Mars. — Foulden Common, TF 7600 (VC 28). First taken by Dr. A. Irwin on 24.vii.84 on a small tip consisting mostly of sawdust and wood chippings. The beetle was still present in numbers on 19.viii.84 and was surprisingly difficult to capture, running very rapidly and taking to flight in the hot sunshine.

Acknowledgements

I wish to thank A. A. Allen, G. Foster, M. Luff and H. Mendel for help with identification and distribution information and A. Irwin for valuable advice and assistance in the collation of Norfolk records.

NEW LOCALITIES FOR CYDIA CAECANA SCHLAG IN WILTSHIRE.

— At approximately 1900 hours on the 30th May 1984 while searching for microlepidoptera on the central portion of the Salisbury Plain, I netted a distinctive looking *Cydia* with which I was unfamiliar, but later identified it as *C. caecana*. According to Bradley, Tremewan & Smith (*British Tortricoid Moths*) it has only been recorded from two other localities in Wiltshire, and is otherwise only known from Kent. On discussing my find with Mr. Godfrey Smith from near Trowbridge, he informed me he had recorded the species from the Imber area some five miles west of my location. It therefore seems that *caecana* has a limited distribution over the central downland areas of Wiltshire. — S. M. PALMER, The Warren, Hindon Road, Dinton, Wilts.

A SUMMARY OF RECORDS OF LASIOCEPHALA
BASALIS (KOLENATI) (TRICH.:
SERICOSTOMATIDAE) FROM THE AREA
ADMINISTERED BY WELSH WATER

By S. J. ORMEROD* and R. A. JENKINS*

Lasiocephala basalis is probably scarce in the U.K. although there are published records of adults from scattered localities (e.g. Breconshire, Powys: Moseley, 1929; Staffordshire: Daltry, 1933; north-west England: Routledge, 1933; Yorkshire: Brown and Whitehead 1938; Carmarthenshire, Dyfed: Jenkins, 1979). Crichton *et al.* (1978) did not record the species between 1965 and 1971 from any of 67 Rothamsted traps distributed throughout the U.K. Larvae have been previously recorded from Bere Stream, Dorset (Hiley, 1972 and pers. comm.), from the River Taf at Whitland, Carmarthenshire (Jenkins, 1975) and from a stream near Ross-on-Wye, Herefordshire (Dr. I. D. Wallace, pers. comm.).

Further records of larvae, pupae and adults are now available from the area administered by Welsh Water (formerly Welsh Water Authority) and were compiled, together with some ecological aspects of the sites, from surveys by Welsh Water (R.A.J.), from the Freshwater Biological Association River Communities Project (Dr. J. F. Wright, unpubl.), from a survey of 45 sites in the catchment of the River Wye (S.J.O. vouchers confirmed by Dr. D. Hiley) and from specimens and records held at Liverpool City Museum (Dr. I. D. Wallace, pers. comm.). The recent records (1974 — present) are summarised in Table 1 and their distribution is shown in Fig. 1. The records generally confirm that *L. basalis* is widespread, but rather local in Wales. Larval and pupal occurrences were generally in the mid to lower reaches of rivers which had total hardnesses in excess of 30 mg l⁻¹ (as Ca CO₃). The most mature specimens generally occurred in March and April and at the river margins, although specimens were also taken from mid stream and in riffles at some of the sites.

Acknowledgements

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* Department of Applied Biology, UWIST, King Edward VII Avenue, Cardiff,

** Welsh Water, 19 Penyfai Lane, Furnace, Llanelli, Dyfed, SA15 5EL.

Site	O.S. Ref.	Date	Stage	Habitat	Altitude (m.O.D.)	Mean total hardness*	Source
Taf	SN 188 167 SN 188 167	26. 3.74 19. 8.76	L A	Margins; mid-Stream))	20)	N/A	1
Taf	SN 237 162	22. 4.80	L	Margins	15	59	3
Eastern Cleddau	SN 075 172 SN 075 172 SN 106 224	18. 6.81 30. 4.82 2.12.82	P L L	Margins N/A N/A)))	35	3 3
Western Cleddau	SM 954 197	30. 6.77	PC	Margin	11	45.5	3
Tefi	SN 217 437	7. 4.78 29. 4.80	L P	N/A Margins	15)	34.5	4 3
Clwyd	SJ 060 719	10.10.79	L	N/A	15	N/A	4
Afon Wheeler	SJ 094 696 SJ 105 715	22. 4.81 1982	L A	Rifle -	40 120	N/A -	5 6
Dee	SJ 33 40	22. 6.75	L	N/A	40	N/A	6
Arrow	SO 280 551	23. 3.82	L	Margins	170	84.2	7
Lugg	SO 348 641	23. 3.82	L	Margins	132	131.8	7
Honddu	SO 335 232	26. 3.82	L	Margins	120	130.7	7
Llynau Gyngennau	SH 657 143	14. 6.82	A	-	260	-	6
Ty'n-y- Cennant	SH 697 153	14. 6.82	A	-	180	-	6
Afon Wnion	SH 772 201	15. 6.82	A	-	75	-	6

TABLE 1. All records since 1974 of *Lasiocephala basalis* Kol. in the area administered by Welsh Water.* as mg CaCO₃ per litre. n \neq 10. L = larva ; P=pupal case ; A = adult.

Sources 1 Jenkins 1975 ; 2 Jenkins 1979 ; 3 Jenkins unpubl.

4 Wright unpubl. ; 5 Welsh Water unpubl. ; 6 Liverpool City Museum ; 7 Ormerod unpubl.

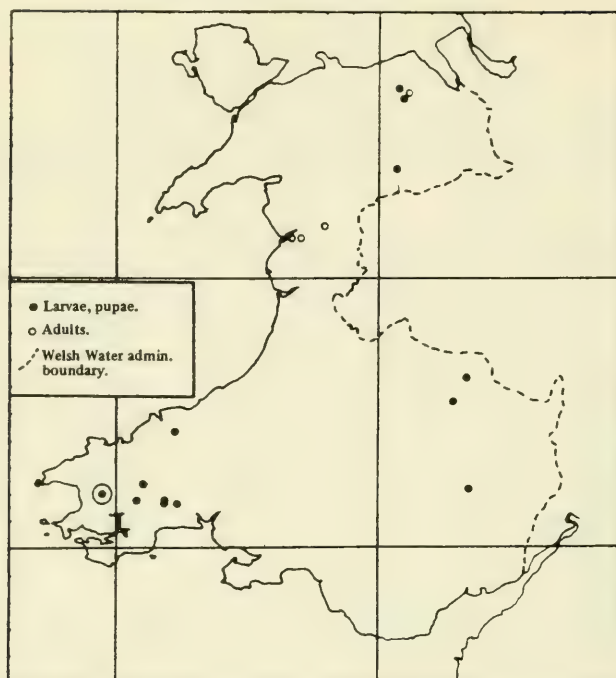


FIGURE 1. All records since 1974 of *Lasiocephala basalis* Kol. Open symbols: adults : Closed symbols : larvae and pupae. Encircled record : pupal case only.

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BRACHINUS SCLOPETA F. (COL.: CARABIDAE):
TWO CAPTURES IN THE PRESENT CENTURY

By A. A. ALLEN, B.Sc., A.R.C.S.*

Fowler (1887:149) wrote of this small distinctive bombardier beetle:—

“Doubtful as British; at all events, it has not occurred for many years; Devonshire (Leach); Southend (Hope); Hastings, locality doubtful (Stephens); Mr. Matthews tells me that his specimens came from Sowerby, who took a small series “near Margate, Kent”, in 1830, and gave some to his father at the time¹: he fully believes that they are quite authentic British specimens; the species, however, seems to have entirely disappeared from the county; it is, however, very common near Paris, and is spread widely over southern Europe, so there is no reason why it should not be found in our southern counties.”

As far as published records go, nothing more seems to have been heard of *B. sclopeta* in Britain from that time to the present. It is no wonder, therefore, that Joy (1932) omits it from consideration, and that Lindroth (1974:134), whilst finding no reason to doubt at least some of the records, suggests that the species is probably now extinct. It will thus be of much interest to report two apparently unpublished captures of single specimens, dating from more recent times; which, even if they do not greatly alter its status in our fauna, help to justify its retention as a British insect — albeit an extreme rarity.

In conversation with the late A. E. Gardener some 12 or more years ago, I learnt that he considered he had an example of this *Brachinus* from Eastbourne and intended to publish the record; but in the event, his untimely death intervened. Lately, wishing to remedy the omission, I wrote to the National Museum of Wales, Cardiff, requesting to be allowed to see the specimen, whereupon the Curator most kindly sent not only the Eastbourne one but also another (to which I shall return). Both are undoubted *B. sclopeta*, and had in fact been confirmed as such by the Museum staff. The former bears the data “Beachy Head/Eastbourne, Sx/1-14.x.1928/E. Gardner”. It is of somewhat ancient appearance, having been originally pinned and at some time since attacked by mould; the left elytron had become detached, probably in cleaning, and had been re-fixed in position.

¹Stephens (1839) did not know of this occurrence, the only one in which a number of examples were definitely involved. They passed later into some of the old collections; I have a very good one purchased about 1930 from Messrs. W. H. Janson, with a label “supposed to have been taken at Margate” and “ex coll. J. C. Lewis”, and others from the same source are in the BMNH.

If Stephens was uncertain in 1828 (p.36, and cf. Fowler, *supra*) whether he had taken his specimen at Hastings or elsewhere — it is in his collection, without data of course — he indicates no such doubt in his later work (1839:9). Be that as it may, this newer capture enables us to delete the note of interrogation regarding the status of *B. sclopeta* on the Sussex list.

The second specimen is from J. R. le B. Tomlin's collection, and carries a label "Gray coll./Esher", but no date. It is thought, however, to have been probably taken about the turn of the century. Being in mint condition (without even a pinhole) it seems most unlikely to date from much before that, and in the absence of anything positive may perhaps be regarded as a 20th-century capture — if only just. The locality, too, raises questions. Esher has been one of the best-worked haunts of London entomologists from early times, situated in an inland county (Surrey), and quite unlike any of the other recorded localities on or near the south or south-east coast where the insect's extreme northern limit seems to be reached. That *B. sclopeta* occurred naturally at Esher (while of course possible) appears so improbable that I am inclined to suspect either some confusion, e.g. a transposed label, or a chance importation. The fact the Tomlin apparently never published the record suggests that he may have been of the same mind.

Beachy Head, on the other hand, is a locality far more in keeping with the few that are known. A single specimen might admittedly have been a casual immigrant or introduction; but, whether it was found on the high ground at the top, or on the under-cliff below, there could well have been a colony somewhere on the inaccessible cliff-face — conceivably it might still be there. Further, the Margate occurrence prompts the thought that there must be potential habitats even to-day on the cliffs of Thanet where, should the beetle yet survive, it would be practically safe from collectors or other marauders!

The old records given by Fowler are not quite complete. On the authority of Stephens's *Manual* (1839:9), which Fowler would appear not to have consulted, it is possible to add a second (in fact the first published) for Kent, namely Faversham — presumably a capture made in the previous decade.

Acknowledgement

My best thanks are due to Mr. A. F. Amsden, Curator of Entomology at the National Museum of Wales, for his helpful co-operation.

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FURTHER APPEARANCES OF *PULICALVARIA PICEAELLA* KEARFOTT (LEP.: GELECHIIDAE). — On 10th. July 1983 and again on 9th. July 1984, I found a small Gelechiid moth in my garden m.v. at Winchester, Hants (VC 11). Both were males but neither the external characteristics nor the genitalia could be related to any species described in British literature, and, in a telephone discussion, Mr. E. C. Pelham-Clinton suggested that they could be *Pulicalvaria piceaella* and gave reference to Canadian literature in which the male genitalia are illustrated and the species described. Check with this literature (*Can. Ent.* 94: 1198-1215; 1962) showed that this suggestion was correct.

The first British specimen of this moth was taken by W. E. Minnion in June 1952 at Pinner in Middlesex and the second by A. A. Allen on 6th July 1959 at Blackheath, London (*Ent. Rec.* 73: 40:41; 1961). at which time the species was assigned to the genus *Recurvaria* Haworth, subsequently to *Eucordylea* Dietz and currently to a new genus *Pulicalvaria* Freeman. I understand that subsequently a further one or two specimens were also taken in the south-east of the country.

It would therefore appear that this species may be breeding and spreading in this country and search for larvae might prove rewarding. According to the *Can. Ent.* reference quoted above, they feed on various species of spruce including *Picea abies*, but apparently prefer *P. glauca*. The larvae hibernate and then feed again for a short period in the spring, the feeding larvae having sclerotized areas bright shiny brown, with an orange-brown body, whilst in the hibernating larva the sclerotized areas are dark brown or nearly black with a deep pink or brick-red body. It is a needle and bud miner but may also be on insect of damaged cones or foliage, old staminate flowers, galls etc. Three other related spruce feeding species (*Eucordylea blastovora* McLeod; *E. ducharme*i Freeman and *E. atrupictella* Dietz) which to date have not been recorded from Britain are also described, but *P. piceaella* is the only one of these which hibernates as a larva. — Col. D. H. STERLING, "Tangmere", 2 Hampton Lane, Winchester, Hants. SO22 5LF.

THE IMMIGRATION OF LEPIDOPTERA TO THE BRITISH ISLES IN 1984

By R. F. BRETHERTON* and J. M. CHALMERS-HUNT**

In extreme contrast to 1983, 1984 was a poor year for immigrant Lepidoptera. Only half as many of the wholly immigrant species were reported; there were fewer probable or possible immigrants; and the numbers of adult individuals of most of them were very small. All the common species occurred, but their numbers were mostly below average. An outstanding feature, however, was provided by at least 100 larvae or pupae of *Acherontia atropos* L., which were noted from mid August to early October, although only half a dozen moths were reported which could have been their parents or their offspring. An unusual number of larvae and pupae but only few moths were also reported for *Agrius convolvuli* L.

Of the rarities the first confirmed specimen of *Agrotis crassa* Huebner in the British Isles (except for the Channel Islands) was caught at Fountainstown, co. Cork by Dr. A. A. Myers on August 20. A single specimen of *Iphiclides podalirius* L. was closely examined and distinguished from *Papilio machaon* L. in a garden near Ross-on-Wye, Herefordshire on August 26 by Dr. P. Aldrich-Blake. He knew of no rearing of this species in captivity in the area, and it was probably part of the varied immigration around that date. Two examples of *Pontia dapidice* L. were also reported: a female watched on buddleia in a garden near the sea at Weston-super-Mare, North Somerset on July 7 and 8 by Mrs. K. Jones (per N. W. Lear), and a male flying and settling on the ground also in a garden at Fair Oak, near Eastleigh, South Hampshire on July 16, by P. Holloway. F.R.E.S.

The season began encouragingly with many records of at least seven immigrant species between April 4 and the first week of May. Some of the first to be seen, including *Vanessa atalanta* L., *Colias crocea* Fourc., *M. stellatarum* L., may have survived the unusually mild winter either in their earlier stages or as imagines. Against this, however, there is a report by fishermen of the sighting of about ten *C. crocea* flying towards St. Catherine's Head, Isle of Wight, early in the month, and there were undoubtedly large influxes from April 16 into early May which, besides these species, included many *Agrotis ipsilon* Hufn., which reached to Orkney on April 24, and examples of *Orthonama obstipata* F., *Autographa gamma* L., and a *Nomophila noctuella* surprisingly on the Isle of Canna, Inner Hebrides on May 4.

*Folly Hill, Birtley Green, Bramley, Guildford, Surrey GU5 0LE.

**1 Hardcourts Close, West Wickham, Kent BR4 9LG.

The periods of warmth in April were succeeded by mostly northerly winds and low night temperatures, briefly broken from May 31 to June 3 but continued at least in south England with little further interruption through June into the first week of July. This made the season a very late one for resident species and also probably prevented successful breeding by the early immigrants. The influxes of *V. atalanta*, *A. gamma* and other common species which are usual in May and June appear to have been small, and the only scarce immigrants reported were three *A. convolvuli* L. in mid June and a single *Daphnis nerii* L. found on the beach at Worthing, West Sussex on June 25.

On July 6 a shift of wind to south east and south began nine weeks of warmth and drought similar to those in 1983. A sizeable immigration brought many *V. atalanta*, *M. stellatarum*, smaller numbers of *C. crocea*, and almost the first arrivals of *C. cardui*, *Peridroma saucia* Huebner, *N. noctuella* and *U. ferrugalis* Huebner; but the scarcer species were represented only by single records of *P. daplidice*, *Diasemia ramburialis* Dup. and *Palpita unionalis* Huebner. Other influxes between July 18 and August 1 repeated most of the common species and added more *A. convolvuli*, the first few *Rhodometra sacraria* L., single specimens of *Nymphalis antiopa* L. and *H. peltigera*, the first few *Spodoptera exigua* Huebner, and *T. emortualis* and *Enargia paleacea* L. in Orlestone Forest, East Kent, on July 31. A single *T. atroplicis* was also caught in Guernsey on July 28.

In the first week of August north east winds brought first examples of *Eurois occulta* L. to Orkney and South Hampshire, with others a few days later widely spread in the east and south east counties, a *N. antiopa* at Gibraltar Point, North Lincolnshire on August 6, one at Southampton, South Hampshire on the same day and another at Alton, North Hampshire on August 8. The largest and most varied invasions of the year came from August 20 to 31, during a very warm spell in which the winds came at first from the south east, later due east across south Britain, then south west from the Atlantic, and finally east and north east across the North Sea. *A. crassa* was trapped in co. Cork, with *Discestra trifolii* Hufn., and on August 23 and 24 *Agrotis puta* Huebner and *Eilema griseola* Huebner, immigrants to Ireland, the latter two probably from mainland Britain. Then a small influx of *Mythimna albipuncta* D. & S. began on August 20, and a score of *R. sacraria* were reported from August 23 into the first week of September, and also a few *S. exigua*, scattered examples of *N. antiopa*, two *Scopula rubiginata* Hufn., and singles of *I. podalirius*, *P. daplidice*, *Danaus plexippus* L., *Mythimna vitellina* Huebner and *Mythimna loreyi* Dup. As the wind returned to the north east there were more *E. occulta* in Lincolnshire and Yorkshire and two *A. atropos* on the beach and at sea off

the coast. In all over 20 certainly or probably immigrant scarce species were seen during this period.

In September there appears to have been a considerable immigration of commoner species, including especially *V. atalanta*, *A. gamma*, and *U. ferrugalis*, about the middle of the month, and another, rather larger, in its last week which brought also a small wave of *A. convolvuli*, a few more *R. sacraria*, and two *D. ramburialis*. October was barren except for a few arrivals of *Mythimna unipuncta* Haw, *M. vitellina* and *U. ferrugalis* with a short spell of south west wind in the middle of the month. There was another wave of the same species in similar winds and unusual warmth from November 6 to 11; *V. atalanta* was also noted on the south coast in numbers at that time. *M. unipuncta* was reported in Sussex and South Hampshire as late as November 28, December 3 and 5, and last in South Essex on December 24.

Among the scarcer species which are listed in Annexe II, the records of *Acherontia atropos*, only nine moths but about 100 larvae or pupae, require some comment. The moths were very scattered both in date and place: in July four in Dorset and Sussex, three in August in Kent, Herefordshire and Yorkshire, and in September one at sea off the north Yorkshire coast, and the last near John O'Groats, Caithness on September 28. Except perhaps in Dorset these do not agree in their distribution with recorded larvae which might have been their off-spring, so that there must have been many other immigrants during the summer which were not observed. Of the larvae, and pupae half were found by repeated searches at Weston-sub-Mendip, North Somerset, and the others widely spread over seventeen English counties and vice counties, mostly in the south and east but reaching Warwickshire, Worcestershire and Herefordshire and with a single larva, the first reported at Lancaster on August 8. A few were found later in August, but the majority, many already full grown, were in September, with some continuation to the end of October. Pupae were found from September 16 onwards. Some of these produced moths in captivity, but the absence of late records and the fact that pupae are known to require temperatures of 70°F. or higher suggest that none did so in the wild. It is interesting that, although potato was the usual food plant, larvae were also found on the native woody nightshade and on jasmine, clematis and forsythia. In Ireland two moths were caught in co. Kerry about September 9 and also one larva. In Guernsey four full-fed larvae were found in mid September, and in Alderney one larva on September 20.

The records of *Agrius convolvuli*, with 29 moths, about 30 larvae and five pupae, are also hard to interpret. There were three records of moths in June, one in Glamorgan and two in East Sussex; in July, four in South Essex, singles in South Hampshire, Dorset, Surrey Warwickshire and two on July 27 and 28 in Norfolk;

in August one in North Lincolnshire and four in East and West Sussex; in September a second in the same place in Glamorgan and singles in Westmorland, East and West Sussex, North Hampshire; in October one at Lewes, East Sussex; and the last on November 10 at Petworth, West Sussex, which coincided with the "red dust" which is believed to have come from the Sahara. One mature larva was found at Marsh Chapel, North Lincolnshire on July 21, almost all the others in the second half of September, and pupae from September 26 to October 13. Most of the larvae were found in the Vale of Pickering, Yorkshire, and three larvae and four pupae with those of *A. atropos* in North Somerset. No moths were noted in either of these counties. Only at Rye, East Sussex, where a moth was seen in mid June and a mature larva on September 28, and at Ringmer, a moth on August 9 and a mature larva on September 30, is there any probable connection between recorded moths and larvae or pupae. Several of the larvae are said to have pupated successfully, and a pupa found at Little Comberton, Worcestershire on October 4, provided a moth in captivity on November 26th; but it is unlikely that any September or October larvae or pupae could have survived to do so in the wild.

The common butterflies were reported by very many observers. Of *Colias crocea* their records cover over 350 in Britain, 30 in Ireland, and a few in Guernsey: vastly less than the abundance of 1983, but rather above the numbers of other recent years. They began early. From April 13 to May there were a dozen sightings scattered along the south coast from St. Mary's, Scilly to the Isle of Wight, and it was said to be the commonest butterfly present at Easter (April 20/23) in one place between Sidmouth and Beer; examples were also seen in Surrey, North Somerset, and one as far north as Stafford on May 13. Despite claims that some were offspring of arrivals in 1983, it is more probable that all were part of the general arrival of immigrant species in April and early May, which has already been mentioned.

Thereafter two were seen on June 1 and 3; there appear to have been small invasions about mid July and at the end of the month. In August few were seen before the first considerable invasion which began about August 23. In September some were noted almost every day. The total of over 200 resulted mainly from a large influx in the middle and a smaller one at the end, but the scatter of dates suggests that local breeding, presumably from July immigrants, and probably most of 44 seen in October also had local origins. The last was seen near Plymouth on October 27.

Records of *C. crocea* came from 25 English and Welsh counties and vice counties, with a clear southern and western bias. The south coast accounted for two thirds of the records, from Cornwall to Sussex, with the most, as in 1983, from Dorset; but two were seen on Lundy Island in the Bristol Channel and 25 in North Somerset,

a few in Glamorgan, Carmarthen, Pembroke, Anglesey and Flint, and a dozen, all in September, in Westmorland and Cumberland. We know of no sightings in Scotland. Inland counties fared poorly: West Kent two in late August and September, Surrey (2 in May, Warwickshire (4), Worcestershire (4), Herefordshire (1), Staffordshire (1). In the east there were two at Spurn Point Bird Observatory on July 11 and September 30, and eight, all well inland, in Lincolnshire from September 2 to October 14.

Vanessa atalanta was widely said to be very scarce or scarcer than usual, but it became fairly numerous in some places from late July onwards; in all there were over 1000 dated records. The first was seen at Walton Bay, North Somerset, on March 1, and over 30 were seen in April and early May, including one in Westmorland/Furness on April 22 and one in Orkney on May 7. Arrivals later in May and in June seem to have been few; but a large influx in the second week of July reached Cape Wrath in Sutherland, Easter Ross, and Caithness, as well as again Orkney, where it became fairly common locally in September. There were further invasions, though not very large ones, in the last weeks of July and August, in third and last weeks of September, and possibly even in early November. The records do not suggest that local breeding was important; but two dozen young larvae were found on pellitory-of-the-wall (*Parietaria judaica*) on St. Anthony's Head, Cornwall in late August, and 27 small larvae on August 18 as far north as Keiss, Caithness, where adults had been in July. Late butterflies were seen on November 24 at Sparsholt, North Hampshire and at Reading, Berkshire, and on November 25 near Plymouth, South Devon.

Cynthia cardui, with reports covering only just over 100, had its poorest year since at least 1967 and possibly much earlier. The first was seen at Knowle, North Somerset on April 20. There were four in the Bristol area and two near Plymouth between June 16 and 27, about 30 in each of the months July, August and September, and three in October, the last being at Portland on October 14. Most seem to have arrived simultaneously with immigrations of *V. atalanta*. No larvae have been reported, and few of the butterflies seem to have been locally bred. Distribution was nonetheless surprisingly wide. A total of 43 were assiduously placed and dated by 27 recorders in the Bristol area of North Somerset and South Gloucestershire. It was seen in many places along the south coast from the Lizard, Cornwall to Pegwell Bay, East Kent, with the highest total of 13 at Portland Bill B.O. On the west coast seven were recorded in Furness and Cumberland, with the most northern at St. Bees Head; and on the east it was seen occasionally in North Lincolnshire, and twice near Filey, South East Yorkshire on September 11 and 19. Single inland records came from Hampstead and Stanmore, Middlesex on August 16 and September 13; Reading, Berkshire September 5 and 6; Tiddesley Wood, Worcestershire,

August 20; and Hough Wood, Herefordshire in early July. In Guernsey four or five were reported, beginning in July.

Macroglossa stellatarum. This mainly diurnal species disperses quickly and widely, and is usually seen only singly except near the points of arrival of immigrant swarms. The total of over 200 reported indicates a fairly good season. Several seen in early April in the Isle of Wight, South Devon and East Sussex may have hibernated, but a concentration at the end of the month indicates a small immigration. There was another in late June, and there was a large influx in mid July, when 18 were seen at Sandwich, East Kent on July 18 and 19, and another at the end of the month. Larvae were found on Lady's Bedstraw (*Galium verum*) in the Isle of Man in late August, and wide scatter of dated records in August and September may have been due to local emergences of moths, in October, however, over 50 seen in the Isles of Scilly on October 7/10, and others at Portland, Dorset, were probably immigrants. The last moth was seen at Oysterhaven, Isle of Man on December 30. The spread of adults was wide. They were reported in 27 English and Welsh counties and vice counties, reaching northwards to Westmorland/Furness and Spurn Point in South East Yorkshire, and inland in small numbers or singly, in Surrey, Berkshire, Worcestershire, South Gloucestershire, Herefordshire, and North West Yorkshire. In Scotland they were seen in Ayrshire, the Isle of Arran and Orkney. In Guernsey there was a few from July to October, and in Ireland it was said to be very common in co. Cork and was seen in co. Dublin and co. Donegal.

(To be continued)

Notes and Observations

A SECOND GENERATION MENOPHRA ABRUPTARIA THUNB.: WAVED UMBER (LEP.: GEOMETRIDAE). — I was surprised to find a specimen of this normally univoltine species in my m.v. trap at Mitcham on August 31st 1983. This would seem to be an unusual record since Skinner (*Colour Ident. Guide Moths Br. Isles*) describes the species as univoltine and South (*Moths Br. Isles*, 1961) makes no mention of any records of second generation examples. I presume that this example resulted from the abnormally high temperatures during the summer of 1983.

I also noted second generation examples of *Euproctis similis* Fuessli and *Dypterygia scabriuscula* L. during the autumn of 1983. These records would seem to be less unusual than that of *M. abruptaria*. — R. K. A. MORRIS, 241 Commonsides East, Mitcham, Surrey CR4 1HB.

ELAPHRIA VENUSTULA HBN.: ROSY MARBLED IN KENT. — On 26th July 1984, a single specimen of this local moth came to m.v. at East Malling. This is the first time that I have seen this species here, and Chalmers-Hunt (*Butterflies and Moths of Kent*) gives no records of it for the relevant Weald. Medway division of the county. Perhaps this is further, if tenuous, evidence for an expansion of range. — D. A. CHAMBERS, 15 Briar Close, Larkfield, Maidstone, Kent.

TWO RECORDS OF EUPITHECIA ABIETARIA GOEZE. — Recent comments on the apparent rarity of this conifer-feeding pug moth (*Ent. Rec.* 91: 220, 322, 92:25, 93:29) prompt me to put on record the two instances on which I have reared the species.

1. On October 1972 collections of Sitka spruce, *Picea sitchensis*, cones were made in five different Forestry Commission stands in Scotland in connection with a study of cone-infesting Diptera. One cone from one of the collections (Fort Augustus, East Inverness-shire) showed feeding damage and lepidopterous frass when examined that winter. From this in June 1973 I bred out a single male *Eupithecia abietaria*.

2. In January 1984 I received from Mr. C. J. MacPhee, Chief Forester at Redesdale Forest, Northumberland, a sample of Norway spruce *Picea abies* cones which he had collected in the last week of October, from a windblown tree at grid ref NT 777014 near Catcleugh, Redesdale. Several showed damage in the form of borings in the basal parts of the cone-scales and destruction of the seeds beneath. Extrusions of lepidopterous frass were associated. Amongst this frass, enclosed rather loosely in the cone was a *Eupithecia* pupa. The pupa and cones were kept until June 1984 when a female *E. abietaria* emerged from the pupa and also two specimens of *Cydia strobilella* L. from the cones. On opening the damaged cones I found a further mummified larva which agrees with that of *E. abietaria* as figured by Escherich (1931), *Die Forstinsekten Mitteleuropas* Vol. 3.

These records show that *E. abietaria* may not be so difficult to breed out from collected cones as has been suggested. Col. Sterling's assumption (*Ent. Rec.* 93:29) that pupation always occurs on the ground away from the cone is evidently not correct. — D. A. BARBOUR, Forestry Commission, Northern Research Station, Roslin, Midlothian, EH25 9SY, Scotland.

UNUSUAL BEHAVIOUR IN ACHERONTIA ATROPOS L. — On the 24th November I had a female *Acherontia atropos* emerge from its pupa (continental stock). This was kept alive in the hope of obtaining a pairing. On the 25th November the moth was placed in a cylinder cage in the bathroom, which is the warmest room in the house. On the morning of the 26th there was no sign of the moth in

the cage. Closer examination revealed that the moth had buried itself in the dry sphagnum at the bottom of the cage. It squeaked violently when it was removed. There had been a frost during the night and the room, though heated, was cold in the morning, so perhaps the moth had buried itself in order to keep warm. I wonder if anybody else has observed this behaviour in this, or any other, species. — D. A. Le PARD, Silver Crest, Silver Street, Sway, Lymington, Hants.

PROSERPINUS PROSERPINA PALL. (LEP.: SPHINGIDAE) NEW TO BRITAIN. — During the early morning of the 26th May 1985, a belt of thunderstorms swept into Sussex from the south-east, accompanied by a short period of wind and rain. At 2.30 am BST the disturbance had passed and Mr. S. Curson of Denton, near Newhaven, East Sussex, hung a 125 watt mercury vapour bulb at his first floor bedroom window. A male *P. proserpina* quickly arrived, unaccompanied by other moths. The insect is of the usual green form with a wingspan of 48mm.

From the literature, this distinctive moth is locally found in the warmer parts of France but mainly south of central Germany into the Mediterranean, and I understand that it has recently been noted in the Ardennes. It has been proposed that its common name in this country be "Curson's Green Hawk". COLIN PRATT, 5 View Road, View Road, Newhaven, Sussex.

CHOROSOMA SCHILLINGI (SCHUMMEL) (HEMIPTERA: HETEROPTERA) IN NORTH-WEST ENGLAND — Further to R. W. J. Read's note of *schillingi* in West Cumbria (*Ent. Rec.* 97:8), I should like to add the following records for the bug in the north-west of England: Freshwater, Merseyside (SD 29-09-) coll. C. Felton 14.vii. 1982 and coll. S. Judd 11.vii. 1984; Sandscale Hawes Warren, Cumbria (SD 190750) coll. N. L. Birkett 3.viii.1975 and 4.ix.1977. All specimens were collected on marram grass and I suspect that the bug might be found on other coastal sand dune systems in Lancashire and Cumbria. I should like to thank Dr. N. L. Birkett and Mr. C. Felton for giving the specimens to the Merseyside County Museums collections. — S. JUDD, Department of Invertebrate Zoology, Merseyside County Museums, Liverpool.

Current Literature

Coleoptera of Gloucestershire. By D. B. Atty, M. A. 8" x 6", xi + 136 pp., including appendices, index, &c., stiff paper covers. Published by D. B. Atty, Cheltenham, 1983.

The appearance of a new county list of Coleoptera is always

a welcome event to devotees of the Order and the present one is no exception, being the culmination of years of patient toil by the author who is also the publisher. It is clearly printed from typescript by photo-offset (a process which eliminates many errors including misprints) on good-quality paper, and is strongly bound and well produced.

Much information is packed into the ample preface, the whole of which merits close attention if the fullest use is to be made of the work; it is descriptive, analytical, and explanatory. For instance, the many sources of records are discussed in detail, and no pains have been spared in verifying as many as possible. A valuable innovation concerns the recording of frequency and distribution within the county, which by means of a simple code is expressed more fully and far more precisely than is usual in such a work. We note, also with approval, that the recent rash of misspelt and mangled names and of other often questionable name-changes has provoked the author to reject the worst instances of this irritating and unscholarly practice.

Because of its position and diverse geology, Gloucestershire possesses a wide range of habitats, and thus a decidedly rich beetle fauna. 2049 species are listed, and many more will certainly be added. (This number however excludes some 70 recorded by Stephens in 1839 from "(near) Bristol" and not otherwise known from the county, listed in an appendix and of doubtful status for various reasons.) Some of the more interesting species which figure in very few local lists include *Badister meridionalis*, *Agabus undulatus* (well established — otherwise a fenland beetle), *Helophorus laticollis*, *Oxyporus maxillosus* (unique as British, but not officially on our list), *Emus hirtus*, *Aphodius sordidus* (including two recent records, apparently the only ones anywhere in Britain for many years), *Synaptus filiformis*, *Globicornis nigripes*, *Ptinus lichenum*, *Meloe rugosus*, *Apalus muralis*, *Leptura virens* (extinct, but two old Dean records), *Gynandrophthalma affinis*, *Cryptocephalus primarius*, *Rhyncolus gracilis*. Several species of northern or north-western type in the Dean area are also of much interest — a good example is the Scolytid *Dryocoetes autographus*.

A second appendix lists grid references (4pp.) for localities cited, and an index to genera and families follows. Finally there is a page of addenda, and a loose sheet gives some further records and a few corrections. The only thing missing which would have been very helpful is a simple one-page rough map of the county with the chief localities and major features indicated; this would have given a working mental picture of their relative positions and the area in general which no amount of rows of figures could do.

The catalogue is sure to stimulate interest among both resident and visiting collectors. We congratulate Mr. Atty on the success of his laborious venture — A. A. A.

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(Founded by J. W. TUTT on 15th April 1890)

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with the assistance of

A. A. ALLEN, B.SC., A.R.C.S.

NEVILLE BIRKETT, M.A., M.B.

S. N. A. JACOBS, F.R.E.S.

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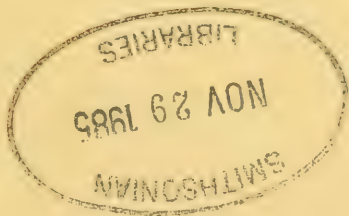
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SOME NOTES ON THE LARVAL HABITS OF THE
PIGMY FOOTMAN, *EILEMA PYGMAEOLA*
(DOUBLEDAY) SUB-SPECIES *PALLIFRONS* (ZELLER)
(LEP.: ARCTIIDAE) AND A DESCRIPTION OF
THE PUPA

By R. K. A. MORRIS *

Introduction

Eilema pygmaeola is a highly localised British species represented by two sub-species which exhibit preferences for different habitat types. *Eilema pygmaeola pygmaeola* (Doubleday) frequents sand dunes at a small number of stations on the Kent and Norfolk coasts, whereas *E. pygmaeola pallifrons* (Zeller) is resident only on the shingle at Dungeness, Kent. Little of the life history of either sub-species has been recorded although Buckler (1889) describes the egg and larva. Records of wild-caught larvae in Britain seem to be restricted to a report by Packer (1979) although many entomologists who sweep at Dungeness must be familiar with the small, furry, brown larvae which are often to be found in large numbers at night in the spring. Records of pabulum preference in captivity may indicate the natural pabulum of *E. pygmaeola pallifrons* but until larvae are recorded from lichens in the wild this will be speculative. With the number of recorders who visit Dungeness each year, it should be possible to establish the natural pabulum of this insect.

In an attempt to fill some of the gaps in our knowledge, the habits of sub-species *pallifrons* have been under investigation for the past two years following successful breeding of larvae taken at Dungeness in 1982.

Habitat

The description of larval breeding grounds necessitates a brief description of the Dungeness ecosystem. Sampling of larvae has, to date, been restricted to the area immediately north and east of the "Long Pond" (fig. 1) and it is this area which is described.

Sallow scrub dominates much of the shingle, providing shelter but very little associated under-cover. Open areas between patches of sallow scrub are dominated by bramble (*Rubus fruticosus* agg.) with wood sage (*Teucrium scorodonia*) and broom (*Sarothamnus scoparius*) forming distinct patches. Elsewhere, grasses and low-growing herbaceous plants form a loose cover which, in places consolidates to form continuous cover. Lichens are a dominant feature of the low-growing vegetation and, in some areas, form a continuous mat over the shingle. Brief examination of the lichen mat revealed the presence of four species: *Cladonia arbuscularia*,

*241 Commonside East, Mitcham, Surrey, CR4 1HB.

C. chlorophaea, *C. convoluta* and *C. rangiformis*. Concrete posts in the area are well covered with encrusting lichens (*Xanthoria* spp).

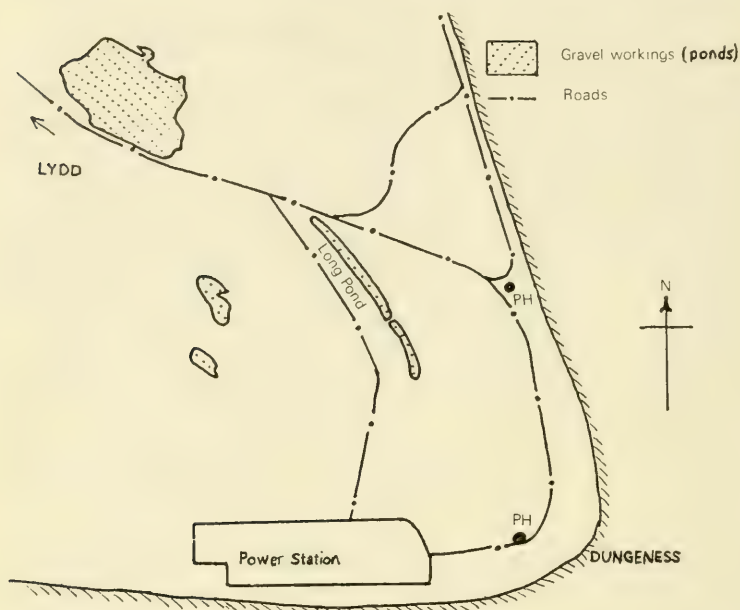


Figure 1. Schematic map of Dungeness, Kent.

Larval distribution

The highest concentrations of larvae are to be found in areas where grasses and lichens are intermixed, forming a loose, often discontinuous, mat. Like others of the genus *Eilema*, *pygmaeola* is lichenivorous and it is therefore surprising that larvae can be swept from grasses. Careful searching revealed the reason for this: at night, the larvae ascend blades of grass to sit motionless for reasons as yet undetermined. In mid-April, larvae were swept from dead grasses. However, searching in mid-June revealed larvae only on living blades of grass. To date, it has not been possible to simulate natural conditions for captive larvae and, consequently, a completely adequate explanation of this behaviour cannot be given. However, the habits of captive larvae may provide a clue. The larvae were reared in standard clear plastic containers whose atmosphere, although ventilated as often as possible, tended to become very humid. Under such conditions, many larvae spent a considerable amount of time on the under surface of the container lid. This, I suggest, may be an attempt to reach a less humid environment. If larvae exhibit this habit under such conditions, it might be that

ascending blades of grass in the wild is to escape humid conditions in the lichen mat. The high mortality rate of captive larvae might reflect adversely high humidity.

Choice of pabulum

A number of pabula were offered to captive larvae, including all of the lichen species mentioned earlier in this text. Substitute pabula included decaying willow leaves, algal growths on bark and various encrusting lichens (*Xanthoria* spp.). All were accepted but with varying levels of enthusiasm. Of the lichen species, *Cladonia rangiformis* appeared to be most favoured when larvae were offered a choice. During the breeding programme, larvae were reared successfully on both *C. rangiformis* and decaying willow leaves. It must be stressed that although breeding captive larvae is possible, the mortality rate is extremely high. Parasitism amongst wild caught larvae was not observed but is recorded in larvae from Sandwich (Packer 1979). Cannibalism was not observed in my breeding stock but has been reported by G. Collins (pers. comm.).

Overwintering

Whilst sweeping in mid-April 1983, a dead grass stem with some thirty larvae attached to its base as a tightly packed "nest" was obtained. This was at a time when very few larvae were to be found in the survey area and suggests that larvae may overwinter as a nest, dispersing after hibernation. However, Buckler (1889) records that eggs are laid loose (confirmed by eggs laid by a captive female). Larval nests would not seem to be consistent with loose egg laying which suggests that the larval nest taken in 1983 was an abnormality.

The larvae taken in mid-April measured between 4 and 5 mm in length but their exact instar was not determined because attempts to breed them out failed.

Pupation

Captive larvae offered a mixture of lichens and mosses pupated in a silken cocoon amongst moss. The larval skin remains partially attached to the pupa and larval hairs are not included in the cocoon.

Description of the pupa

Four pupae were obtained during the breeding programme for 1984 (fig. 2). These had the following dimensions:

Pupa	Length (mm)	Breadth at the widest point (mm)
i.	6.5	2.3 (pupa figured)
ii.	6.0	2.2
iii.	6.0	2.3
iv.	8.0	2.7

Two of the smaller pupae produced female moths and the larger one a male. In comparison with wild bred adults, bred specimens are fractionally smaller.

Shape and feature: Head rounded, tapering outwards to about mid-way down the wing cases. Tapering between this point and the end of the wing cases is gradual. The wing cases extend beyond two-thirds of the length of the pupa. Tapering between the wing cases and the anal end is more pronounced but the anal end is rounded.

Colour: Light brown initially, gradually darkening on the thorax and abdomen to a rich brown with darker markings. The head plate and wing cases remain light yellow-brown and translucent for some time but gradually darken to orange brown. The eyes are prominent and dark.

Pupal lustre: Shiny.

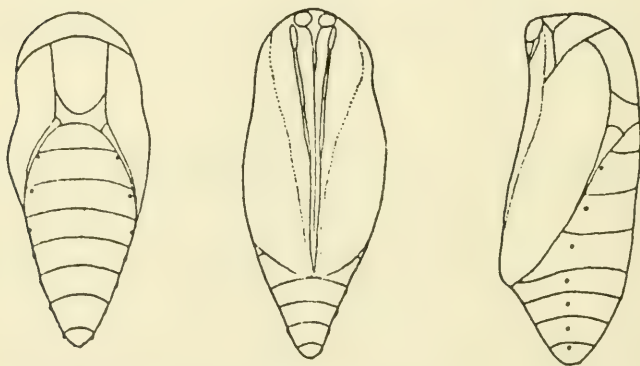


Figure 2. The pupa of *Eilema pygmaeola pallifrons*.

Comments

The results of this breeding programme leave a number of unanswered questions which require further investigation. Circumstantial evidence points to larvae overwintering as a nest, a characteristic not consistent with known egg-laying habits. The reason for larvae ascending blades of grass at night has yet to be explained fully but further investigations into the hypothesis that this is related to humidity in the lichen mat will be made in 1985. Further investigation into the pabulum preferences of both sub-species is desirable since the sand dune and shingle ecosystems differ in structure and the pabula of sub-species *pygmaeola* may differ from sub-species *pallifrons*. It must be stressed that fatalities amongst captive larvae are extremely high. Consequently, it is not recommended that breeding for the cabinet be attempted, nor should it be encouraged.

Acknowledgements

I am indebted to G. A. Collins for his observations on larval cannibalism and to R. D. Dunn for identifying lichen species collected from Dungeness. During drafting of this note, much useful criticism has been given by Dr. P. G. Morris.

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BANKESIA CONSPURCATELLA (ZELL.) (LEP.: PSYCHIDAE) RECORDED IN SOUTH YORKSHIRE. — On 31st March 1985 at the edge of Thorne moors, South Yorkshire (VC63) Mr. M. Limbert noticed eight or ten small moths on thick sap covering a recently cut birch stump. He at first thought that the moths were stuck to the sap but closer inspection revealed that this did not seem to be the case. He collected two moths which he sent to me alive through the post.

I was convinced that they were *Bankesia conspurcatella* (Zell.) (*staintoni* (Wals.)) but as, according to the literature available to me, the species had occurred in Britain only in Hampshire at the end of the last century I prepared a genitalia slide from one of the moths and sent it to Rev. D. J. L. Agassiz who kindly confirmed my determination. In his reply Rev. Agassiz mentioned that there have been recent records from Kent and the Channel Islands, nevertheless the present record represents a considerable northward extension of the range of this, apparently elusive, moth. H. E. BEAUMONT, 7 Brampton Road, West Melton, Rotherham, South Yorkshire, S63 6AN.

ELACHISTA LITTORICOLA LE MARCHAND IN 1985. — The area where I first took this species (see *Ent. Rec.*, 95:65) was bulldozed and covered with gravel last year. On 4th June 1985, I visited the site with Mr. E. C. Pelham-Clinton and Dr. J. R. Langmaid. We were delighted to find a flourishing colony on the remaining grassy bank. We managed to catch their flight time — mid afternoon — and watched them climbing up grass stems of red fescue and flying freely. We have seen at least 40 specimens. — E. H. WILD, 7 Abbots Close, Highclidde, Christchurch, Dorset BH23 5BH, 8.vi.1985.

GREEK ISLAND BUTTERFLIES: DODECANES 1983

By GEORGE THOMSON *

In 1983 I spent one week in the Dodecanes (May 27 – June 1), based in Rhodes, taking in day trips to Karpathos (May 29), Kos (May 30) and Simi (May 31). Four days were spent visiting much of Rhodes itself by hired car, but exploration of the other islands was restricted to walking distance from the embarkation point. The main purpose of my visit was to collect samples of *Maniola telmessia* for research and most efforts were directed to this end. Consequently, all other species which were recorded or collected were those which happened to be noticed in the habitats in which *telmessia* was sampled. No effort was made to seek out other species. In spite of this, an interesting group of butterflies from these islands was noted.

In contrast with the experience of Bretherton (1971), butterflies, in general, were conspicuously abundant in Rhodes, Kos and Simi: very few species were local. Throughout the week the days were sunny and hot, but it was cloudy and cool, with some rain, on Karpathos: only two butterflies were seen there. Surprisingly little has been written about the Lepidoptera of Rhodes and the butterfly fauna of the nearby islands is even less well documented. Bretherton (*loc. cit.*) describes a short visit to Rhodes and cites previous lists of species found there (Rebel, 1916, 1924, 1936; Turati, 1929; Turati and Fiori, 1930; Hartig, 1940; Bender, 1963). Turati includes species found in Simi and Karpathos, while Reisser (1946) lists butterflies from this part of the Mediterranean in an important collection of records of Lepidoptera from the Aegean Islands.

The following list includes one species new to Rhodes, *Quercusia quercus*, and three species apparently not so far recorded in the Dodecanes, *Q. quercus*, *Normandia ilicis* and *Cupido minimus*.

My travel to the Dodecanes was funded by an award from the Carnegie Trust for the Universities in Scotland.

PAPILIONIDAE

Papilio machaon giganteus Verity. Rhodes – Faliraki, Filerimos: Kos – Kos Town. Common with females ovipositing.

Papilio podalirius smyrnensis Einer. Rhodes – Filerimos, Lindos. Common at Filerimos, good numbers elsewhere.

*Department of Biological Sciences, University of Stirling, Stirling, FK9 4LA.

PIERIDAE

Pieris brassicae f. *catoleuca* Rober. Rhodes — Faliraki, Lindos, Filerimos: Kos — Kos Town. Very common, but absent from Simi.

Pieris rapae L. Rhodes — Filerimos: Kos — Kos Town: Karpathos — Pigathia. Common where noted. One only on Karpathos. Absent from Simi.

Pontia daplidice L. Rhodes — Faliraki, Filerimos: Kos — Kos Town. Common.

Gonepteryx farinosa Zeller. Rhodes — Faliraki, Filerimos, Lindos. Common.

Gonepteryx cleopatra fiorii Turati and Fiori. Rhodes — Faliraki, Filerimos, Lindos. Common, but less so than *farinosa*.

Colias crocea Fourcroy. Rhodes — Faliraki, Filerimos: Kos: Kos Town. Very common, including many f. *helice* Hubner.

SATYRIDAE

Hipparchia syraica ghigii Turati. Rhodes — three kilometres north of Faliraki. Males and females, 10 — 15 individuals in lightly wooded crag surrounded by dry garique vegetation. The butterfly settles on tree trunks and branches as well as between and on rocks until disturbed when it flies into the higher trees.

Kirinia roxelana Cramer. Rhodes — Filerimos: Kos — Kos Town. Only a few at Filerimos. Common west of Kos Town. The behaviour of this butterfly is similar to *syraica*, although *roxelana* is also partial to old buildings and ivy on which it settles.

Lasiommata megera emilysa Verity. Kos — Kos Town: Simi — Pedi and Simi Town. Common, but not seen on Rhodes.

Lasiommata maera adrasta Hubner. Rhodes — Faliraki: Simi — Pedi and Simi Town. Fairly common where seen.

Maniola telmessia ornata Turati and Fiori. (fig. 1). Rhodes — Faliraki, Filerimos, Lindos, Apolakia, Profitis Ilias: Kos — Kos Town and valley to west of Kos Town: Simi — Pedi and Simi Town: Karpathos — Pigathia. Very common in a variety of habitats — dry rocky hillside at Faliraki and Simi Town, dry lightly wooded rough grassland at Filerimos, Lindos, Apolakia and west of Kos Town, gardens at Kos Town, gardens at Kos Town and Pigathia (one only) and open woodland at Profitis Ilias. It is to be found sparingly (singles) amongst the dry garique vegetation. In some areas, notably Simi Town and Faliraki, this butterfly appears to develop similar habits to those of other Satyridae, settling on tree trunks, in bushes, on rock faces and in rock crevases.

Hyponephele lupina lupinulus Turati and Fiori (? *intermedia* Stgr.). Kos — west of Kos Town. Four freshly emerged males only in 'heath garique'.



Figure 1. (a) *Normandia ilicis* Esper. ♀. Simi Town, 31.v.1983.
 (b) *Syriacus proto* Esper. ♂. Simi Town, 31.v.1983.
 (c) *Maniola telmessia ornata* Turati and Fiori. ♂.
 Filerimos, Rhodes, 26.v.1983.
 (d) as (c). ♀.

NYMPHALIDAE

Charaxes jasius L. Rhodes — Filerimos, Two only, flying around tops of high trees — one caught.

Limenitis rivularis Stichel. Kos — west of Kos Town. A few very worn individuals.

Vanessa atalanta L. Rhodes — Filerimos. Common.

Cynthia cardui L. Rhodes — Filerimos: Kos Town. Common.

Polygonia egea Cramer. Kos — Kos Town. Several in gardens.

LYCAENIDAE

Callophrys rubi fervida Stgr. Rhodes — Filerimos. A few very worn.

Quercusia quercus L. Rhodes — Filerimos. Two or three individuals, one caught and examined. This species has never been recorded from Rhodes, although it is found in adjacent Turkey.

Normandia ilicis Esper. (fig. 1) Kos — west of Kos Town: Simi-Simi Town. A few males and females in a lightly wooded grass valley

in Kos. One only (female) taken on Simi. Not recorded from the Mediterranean Islands except Elba and Sicily. *N. acaceae abdominalis* Gebh. is recorded from mainland Greece and Turkey and in a very distinct form in Crete (Bretherton, 1966), but the Kos and Simi butterflies are certainly *ilicis*.

Lycaena phlaeas L. Rhodes — Filerimos: Kos — Kos Town. A few at Filerimos. Common to the west and north of Kos Town.

Lampides boeticus L. Rhodes — Filerimos. A few only.

Plebejus loewii robusta Turati. Kos — west of Kos Town. Locally common.

Aricia agestis Schiff. Rhodes — Filerimos. A few only.

Polyommatus icarus Rott. (?ssp.). Rhodes — Filerimos: Kos — Kos Town. Very common.

Cupido minimus Fuesl. Kos — west of Kos Town. Locally common in grassy valley. Found in mainland Greece but new to the Dodecanes.

HESPERIIDAE

Spialia sertorius orbifer Hubner. Rhodes — Filerimos: Simi — Pedi and Simi Town. Locally very common.

Syrichtus proto Esper. (fig. 1). Simi — Simi Town. Locally common on a steep, dry, rocky hillside above the village. One male taken. Recorded from Karpathos (Rebel, 1935) and Kythera (Rebel, 1938). Genitalia dissected (fig. 2) and appears to have some features in common with *S. mohammed* Oberthur (gnathos broad, valve costal fold tends to broaden posteriorily).



Figure 2. *Syrichtus proto* Esper. Male genitalia. Simi Town, 31 May 1983.

Carcharodus alcaea australis Zeller. Kos — west of Kos Town. Locally common.

Thymelicus actaeon Rott. Rhodes — Faliraki, Filerimos, Lindos: Kos — Kos Town. Very common.

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ISLE OF CANNA — A REMARKABLE STRANDING. — In the middle of May the sandy beach at Tarbert, in the middle of the island and on the south side, was found to be covered along the watermark with what was suspected to be fragmented seaweed, but turned out to be millions of dead and dying heather beetles (*Lochmaea suturalis* Thoms.), later identified by Mr. A. A. Allen of Charlton. I was unable to visit the situation myself, but a plastic jar of specimens was brought to me.

This is a unique incident in my experience, the only comparable one being finding the sea on the north side of Canna covered with flying ants one calm day a few years ago. Mr. Peter Wormell, formerly Nature Conservancy warden on the Isle of Rhum, tells me that the Heather Beetle was abundant on the island last summer (1984), and it is possible these specimens may have come from Rhum. The Head Lighthousekeeper on the small island of Heisker about ten miles away tells me that no similar stranding took place there. Canna itself is not thickly covered with heather. — J. L. CAMPBELL. Isle of Canna.

PYCNOMERUS FULIGINOSUS ERICHSON
(COL.: COLYDIIDAE):
ITS EXPANDING DISTRIBUTION IN SUSSEX

By RICHARD A. JONES*

Shortly after its discovery in Britain in Slapton, Devon in 1962 (Welch, 1964), this small, dull-brown, sluggish beetle was found in a wood-yard in Epping Forest in 1964 (Hunter, 1966). It was flourishing there in 1968 (Allen, 1968) and in the Massee collection at the rooms of the British Entomological and Natural History Society (BENHS) there is a series of nine specimens bearing the label "dead birch, Epping Forest, R. D. Weal, iv,v,vi 1976". Mr. I. McClenaghan exhibited a specimen of *Pycnomerus* at the BENHS annual exhibition in 1981 (McClenaghan 1982) from "under bark outside the timberyard in Epping Forest", which he informs me is the same site from which Mr. Weal's specimens came. Hence, it appears that after being introduced into the wood-yard, *Pycnomerus* has moved (albeit not a great distance) out into the Forest itself. I have not found any other references to captures of this unusual beetle, so it may be of interest to report the localities in Sussex in which I have found it.

I first took *Pycnomerus* under the bark of a fence stake at the entrance to Kingspark Wood, Plaistow, West Sussex on 15.viii.77. There were two specimens, in company with *Abdera quadrifasciata* Curtis and *Melasis buprestoides* (Linnaeus). Two years later on 4.viii.79, I took another specimen from the same fence. On 27.xii.83 I found two examples under the bark of an oak stump near Muddles Green, in central Sussex. Despite the cold weather, they were active and crawled about quite happily across the wood. Exactly one year later, on 27.xii.84 I collected some wet fungus-infected bark from the trunk of a dead but standing oak between Lurgashall and Petworth in West Sussex. Although there was only a small area of bark, it produced a single example of *Pycnomerus*, along with *Trox scaber* (Linnaeus), *Thymalus limbatus* (Fabricius), *Aphodius sphacelatus* (Panzer) and *A. granarius* (Linnaeus).

It is possible that the palings at Kingspark Wood had the beetle in them when they arrived, having come from a wood-yard nearby where the beetle was introduced. The Lurgashall locality is about 4½ miles south-west from Kingspark Wood, but is nowhere near buildings or any recently erected fence. The likelihood of beetles from these localities coming from the same initial source in West Sussex is further supported by the fact that numerous specimens

*Garden Flat, 131 Chadwick Rd., London, SE15 4PY.

have been found in and around Haslemere (just inside Surrey) and Black Down (3½ miles from Lurgashall and 4½ miles from Kingspark Wood) in July of 1984 by Dr. P. Hyman (personal communication, 1985).

On hearing of my intention to publish my records, Mr. P. Hodge informed me that he had also taken *Pycnomerus* several times in the area where I had found it in central Sussex. On 24.v.73 one example was found on an oak log in the wood-yard at Vert Wood, just 1½ miles west of Muddles Green; on three other occasions (16 and 19.ix.74 and 27.ii.77) he took three more specimens. Further, on 30.vii.77 he found two under the bark of an old hornbeam stump in Hale Green only ½ mile north-east of Muddles Green, and five more from the same stump on 4.x.80. Again, it seems that although *Pycnomerus* may have been introduced into the area by the actions of man, it has begun to spread out into the surrounding countryside. In Sussex now there are two centres from which this species is expanding (Figure 1).

When it was first found, *Pycnomerus* was 'the latest recruit to a small but growing band of successful colonists from Australia' (Allen, 1968), but unlike *Euophryum confine* (Broun) and *Aridius (Lathridius) bifasciatus* (Reitter), has not become anywhere near common. (*Euophryum* and *Aridius* are now almost ubiquitous in Sussex and the Home Counties.) Rather, its spread more resembles that of *Saprosites mendax* Blackburn, another antipodean which until its recent discovery in Richmond Park (Coleopterist's Newsletter, 1982), was restricted to Arundel Park and the neighbouring Rewel Wood. *Pycnomerus* will surely be found in new localities, and I look forward to finding it again, and seeing published records of its colonisation of the country.

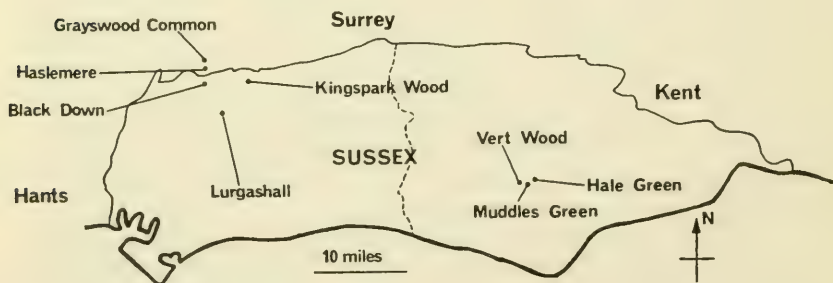


Figure 1. Map of Sussex showing the localities of *Pycnomerus fuliginosus*. These records appear to show two centres from which the beetle is spreading.

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Canna: The Story of a Hebridean Island by J. L. Campbell. Pp.i-xviii, 1-323. 16 coloured and 25 black and white illustrations, 3 maps. Hard cover, cloth. Published for the National Trust of Scotland by Oxford University Press. 1984. Price £25.

Dr. J. L. Campbell is well known for his writings on Hebridean butterflies and moths and on those of the Isle of Canna in particular. To this attractively written and well documented history of Canna, there is a series of Appendices, some of which deal with its natural history, notably its Wild Animals and Fish, Birds, Native Trees, Wild Flowers and Geology. However, perhaps of most interest to readers of the *Record*, is Appendix XIII: the author's "Butterflies and Moths of Canna", based on his list "Macro-Lepidoptera Canna" with additions (in *Ent. Rec.*, **82**:211-214, 235-242, 292-299; **83**: 6-12; **84**:196-198; **87**:10-12) and the account of the Microlepidoptera by Drs. Harper and Young (in *Ent. Rec.*, **93**:150-153).

The author touches on the interesting question of two-way movements of two regular migrants to Canna (a subject treated by him in some detail in *Entomologist*, **84**:1-6). Practically every summer, *Cynthia cardui* L. and *Vanessa atalanta* L. migrate to the Isle, where they produce a generation of butterflies and there are strong indications that the latter then fly south. In 1949, approximately 300 *C. cardui* and 100 *V. atalanta* bred from wild larvae collected on Canna were marked with blue cellulose paint and released on the Isle. Several correspondents in England and Scotland claimed to have observed such butterflies, but scientific proof of the southerly movement was lacking owing to the failure to capture any of the marked specimens. — J.M.C.-H.

EGG-KEEL NUMBER IN THE SMALL TORTOISESHELL BUTTERFLY

By ROGER L. H. DENNIS and TIM RICHMAN*

In the past it was commonly believed that the peacock butterfly (*Inachis io* L.) had eight keels or setae on its eggs, while the small tortoiseshell (*Aglais urticae* L.) had nine (Brooks and Knight 1982). Döring (1955) stated that *I. io* had only seven such keels. In a survey of 53 egg batches in the Bollin valley, Cheshire, we found that in addition to both pure 8 keel and 9 keel batches, there were also combinations of the two with varying frequency. To investigate this further, samples of 10 to 20 eggs were taken from each batch, after they had been discarded by the larvae. The keels were then counted under x30 magnification, the results being illustrated in Figure 1.

As can be seen, most of the egg batches had a majority of eight keels, with a rapid fall-off to give only a few batches with a majority of nine keels. On the basis of Mendelian ratios for one gene locus, one would expect to get four combinations of phenotypes, assuming that eight keels are dominant to nine.

	Male	Female	Genotypes (Phenotypes)
1.	88	x 88	= 88 + 88 + 88 + 88 (100% 8 keels)
2.	88	x 99	= 89 + 89 + 89 + 89 (100% 8 keels)
3.	89	x 89	= 88 + 89 + 89 + 99 (75% 8 keels; 25% 9 keels)
4.	89	x 88	= 88 + 88 + 89 + 89 (100% 8 keels)
5.	89	x 99	= 89 + 89 + 99 + 99 (50% 8 keels; 50% 9 keels)
6.	99	x 99	= 99 + 99 + 99 + 99 (0% 8 keels)

We thus have 4 combinations of phenotypes. They are 100% 8 keels, 75% 8 keels, 50% 8 keels and 0% 8 keels (shown on Figure 1).

Certainly the frequency of eight keels runs true to the most typical combinations expected. They are numbers 1, 3 and 4. But, intermediate frequencies occur which need to be explained. There are several possibilities that could effect the final outcome. They are: (i) two different females of the same species laying their separate egg batches together on the same leaf; (ii) sampling effects, such that 10 to 20 eggs represent an inadequate fraction; (iii) different mortality rates for specific keel genotypes prior to oviposition or during the egg stage; (iv) egg-keel number being controlled by more than one gene locus; (v) effects due to the environment.

These alternatives are unlikely to be equally feasible. Recourse to environmental influences or polygenic solutions, in practice requiring carefully thought-out experimental designs, pose usual

*The Manchester Grammar School, Manchester M13 0XT.

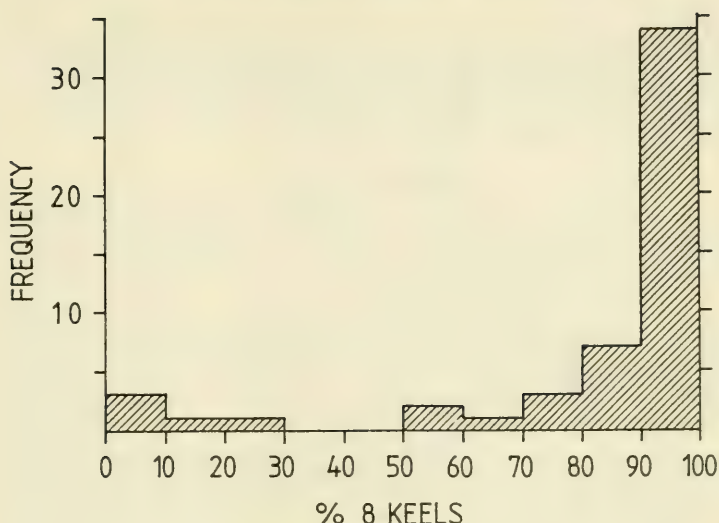


Figure 1. The frequency of *A. urticae* batches with different proportions of 8 and 9 keels from the Bollin valley, Cheshire, June 1983.

escape clauses, and can be made to 'model' real situations easily enough. Yet, effective practical treatments are rarely sufficiently rigorous and often difficult to establish. Differential mortality requires that we know the direct and associated functions of keel numbers, which we do not. On the other hand joint egg batches may account for some aberrant frequencies from expected single locus Mendelian situations. Baker (1978) has observed females return to oviposition sites to complete egg batches, and it is clear from the existence of egg clusters made up of sharply delineated adjacent egg masses of different ages that *A. urticae* has the ability to locate eggs on nettle beds and to add to batches (Dennis 1984). However, the most likely explanation of the deviant frequencies is the small sampling fraction used. The very nature of the small samples makes the calculation of the binomial standard error for these frequencies incorrect, but at very least some indication is given of how wide the confidence interval is likely to be:— for instance the 95% confidence limits for 8 keels is approximately $25 \pm 19.4\%$, $n = 20$ in a batch comprising 25% eight keels to 75% nine keels.

As far as we know, this is the first time that dimorphism in keel number has been reported in single egg batches, and we would be interested to hear of any similar reports. There is also room for work on the genetics of the feature for those who regularly breed butterflies. An interesting additional point was the discovery of a peacock egg batch, identified later when the larvae had grown, which had been laid adjacent to and overlapping a small tortoise-

shell batch. When the two egg batches were examined under 600x magnification, no visible difference in the egg-shell walls between them could be found. The possible advantage to the peacock larvae of being laid next to a small tortoiseshell egg batch has been discussed elsewhere (Dennis 1984).

Acknowledgements

We would like to thank Mr. John E. Pownhall for kindly letting us work on his land, and Mr. Gerry Peat for examining the eggshells for any microscopic differences.

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A FURTHER RECORD OF THE SPRING BROOD OF THE SCARCE CHOCOLATE TIP: *CLOSTERA ANACHORETA* D. & S. — A single male *Clostera anachoreta* was attracted to my m.v. trap at Lade, Lydd-on-Sea, Kent (TR0820) on the night of 27/28th May 1985. From comments on the note of C. W. Plant and P. A. Sokoloff (*Ent. Rec.* 96: 211) it would appear that this is only the third example of a spring brood *anachoreta* caught in Britain. Its presence at Lade suggests that the species might be fairly widely distributed on the shingle area of Dungeness.

On the previous night, 26/27th May, single specimens of *Calophasia lunula* (Hufn.) and *Udea ferrugalis* (Hubn.) also turned up at the same site. I. P. WOIWOD, South Lodge, Cockayne Hatley, Sandy, Bedfordshire.

FEDALMIA HEADLEYELLA (STANTON) (LEP: NEPTICULIDAE) IN DORSET — I was pleased to take a specimen of this local moth in my garden m.v. on 7th July 1985. This would appear to be a new vice county record for Dorset. (VC11). The larva feeds on selfheal (*Prunella vulgaris*), a plant which is abundant in my lawn! E. H. WILD, 7 Abbots Close, Highcliffe, Christchurch, Dorset.

ETHMIA BIPUNCTELLA FAB. IN EAST SUSSEX — I would like to record that at around midnight of 26 May 1985 I took a single example of this moth at m.v. in my garden. M. PARSONS, The Forge, Russells Green, Ninfield, East Sussex. [The only other Sussex *bipunctella* known to me is one taken at Peacehaven by F. Bickerstaff in 1952, which specimen I have. — J.M.C.H.]

NOTES ON A REMARKABLE IMMIGRATION OF LEPIDOPTERA INTO THE UNITED KINGDOM — APRIL 1985

By P. A. DAVEY*

At the beginning of April 1985 a notable influx of immigrant Lepidoptera into the U.K. occurred. Notes on some of the species are given in the Appendix. The principal species involved were *Cynthia cardui* (Linn.) and *Hyles lineata livornica* (Esp.). Although it is not unusual for *cardui* to be seen as singletons, large numbers are seldom recorded during the Spring months. The second species, *livornica*, is an irregular immigrant to this country and is most often recorded during the Summer months.

Two distinct and separate immigration peaks are apparent from the information available to date; the first between the 2nd and 10th April and the second between the 16th and 21st April. The weather during this three week period split into three distinct types:

- a) tropical south to south-westerly (30.iii to 6.iv)
- b) cyclonic polar south-west to north-westerly (7.iv to 14.iv)
- c) anticyclonic tropical south-west to westerly (15.iv. to 20.iv).

As there was a significant gap between the two peaks it was decided to plot a backtrack for the first *livornica* recorded for each peak (the first insect recorded enables one to work the most realistic backtrack).

The backtrack for the first *livornica* is shown in Figure 1. Both curves represent backtracking with respect to wind direction and speed, and both commence at the capture time of 2100 hours on the 2nd April. One curve (●—●) assumes no flight speed for the insect (and can also be interpreted as a random orientation coupled with a constant flight speed of any magnitude). The second curve (x—x) assumes a ten knot downwind insect flight component added to the ambient wind. The steplength between adjacent symbols on any one curve is three hours to 0000 hours on 1st April and six hours to the end of the curve. At the midnight points, the two curves are connected by a dotted line for any given date.

The backtrack for the second *livornica* is shown in Figure 2. The constraints imposed upon the two curves are identical to those described for Figure 1. The capture time was 0300 hours on 17th April, and the steplength is three hours for the whole backtrack. It should be noted that this method of backtracking can only be used to provide a general indication of the nature of any immigration.

*The Dell, Stallards Lane, Tilford Road, Rushmoor, Farnham, Surrey.

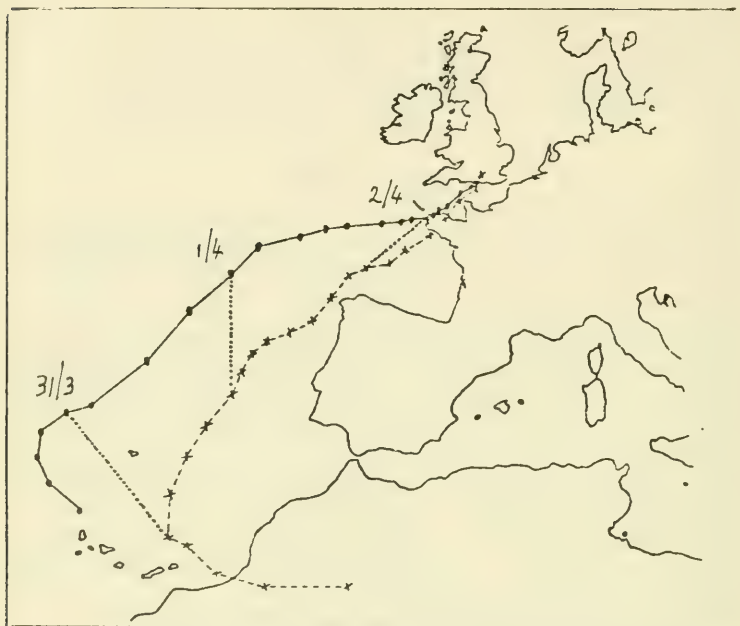


Figure 1. Backtrack for *livornica* taken at 2100 hours on 2/4/1985 near Haslemere.

In this analysis the following conditions were assumed:

- a) insect orientation and flight speed were as described above.
- b) continuous flight of the insect for a minimum of 90 hours prior to capture.
- c) flight at sea level throughout.

From Figure 1 it appears that a likely source may have been the Canary Isles and/or that part of Africa adjacent to the Canaries. The weather in the area at that time was unusually warm, with light winds from the Sahara. (Midday temperatures in Tenerife between 30th March and 2nd April were 27°C, some 7°C above the early April norm). It is interesting that the ten knot curve (x-x) passes quite close to north-west Iberia, and both curves pass over Brittany. Figure 2 is less easy to interpret, with no indication of any low latitude source. A number of possible explanations can be advanced:

- a) the insect was resident in the area of capture since the original influx (i.e. the second peak reflects the three distinct weather types previously described).
- b) the insect flew on a shorter migration route from Brittany or the Biscay coast following a previous migration from the Canaries two weeks earlier.
- c) the insect took up to two weeks to arrive via a protracted Atlantic route.

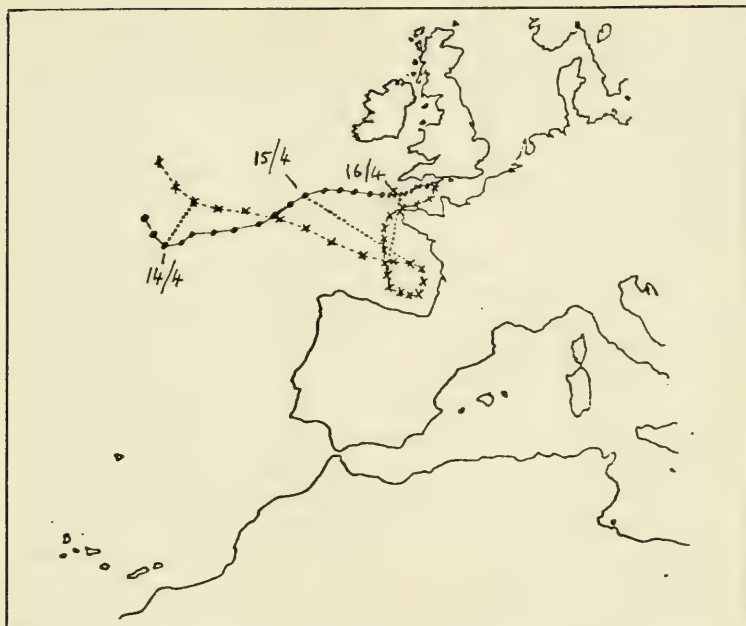


Figure 2. Backtrack for *livornica* taken at 0300 hours on 17/4/1985 near Swanage.

In conclusion it appears that the meteorological conditions were favourable for an influx of migrant *Lepidoptera* from the area of the Canaries or the adjacent African coast at the start of April 1985. It remains unclear whether there was a subsequent influx around the middle of the month. No meteorological evidence could be found to suggest an influx originating any further south than the north Iberian coast.

APPENDIX

By R. F. BRETHERTON* and J. M. CHALMERS-HUNT**

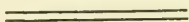
This is the largest and most interesting immigration of *Lepidoptera* in April which has been reported for many years. It is hoped to publish a full account in due course in the Migration Report for 1985. Readers who have not already done so are asked to let us have any records of immigrants or probable immigrants,

* Folly Hill, Birtley Green, Bramley, Guildford, Surrey, GU5 0LE.

**1 Hardcourts Close, West Wickham, Kent BR4 9LG.

as precisely dated as possible. So far, of *Hyles lineata livornica* we have received reports of over 30, of which 16 were from April 2nd to 10th, 10 from April 16th to 21st and several remaining to be exactly dated. Most were seen in light traps, but several were found at rest by day, and two at flowers at dusk; the range extends near the coast from Cornwall to east Sussex and on the west from Cardiganshire to north Lancashire, and inland to Surrey, Berkshire and west Kent.

Numbers of *Cynthia cardui* reported approach 100, also split into two periods and with similar distribution, but reaching more widely to Worcestershire, Yorkshire and Cumbria. Other immigrant species already reported in April singly or in small numbers are *Vanessa atalanta*, *Macroglossa stellatarum*, *Spodoptera exigua*, *Caradrina clavipalpis*, *Mythimna unipuncta*, *Euchromius ocella* and *Nomophila noctuella*. Rather suprisingly, *Autographa gamma* appears to have been absent. Lack of warmth in late April and early May may have prevented successful local breeding, and we would be interested in receiving reports of larvae, especially for *livornica*, which in the past have been found on vine, fuschia, bedstraw and many other plants.



SMALL TORTOISESHELL BUTTERFLY: *AGLAIS URTICAE* L.: AN UNUSUAL ABERRATION — On April 29th my colleague John Harrison received a letter from a listener to the BBC wildlife radio programmes, Miss Hazel Petcher, enclosing with it a colour photograph of two *Aglaia urticae* L. on the flowers of the ice-plant *Sedum spectabile*. One of these she had been unable to identify because of its strange appearance. When the photograph was passed to me for an opinion I concluded that this individual was intermediate between ab. *semiichnusoides* Pronin and ab. *conjuncta* Neuberg, although it had very wide whitish margins to the forewings (see Russwurm, A.D.A., 1978. *Aberrations of British Butterflies*. Clasesy, Farringdon).

Unfortunately, Miss Petcher's photograph had been taken with a standard wide angle lens and does not show the insect in close-up. It is therefore impossible to see enough detail for a positive identification; even so, it is a very striking aberration. I sent it to J. M. Chalmers-Hunt, who considered it comes near to ab. *conjuncta*. The photograph was taken in the observer's garden at Barlestone, near Nuneaton, Warwickshire in the late summer of 1984. — J. F. BURTON, B. B. C. Natural History Unit, Broadcasting House, Bristol, BS8 2LR.

ASSEMBLING THE EMPEROR MOTH
(*SATURNIA PAVONIA* L.) IN ESSEX

By R. N. BAXTER *

I was interested in Colin Plant's notes regarding his assembling of two male *Saturnia pavonia* (*Ent. Rec.* 96:234). My experience of assembling this species at Forest Gate and Ilford may be of interest.

Up to 1982 I lived in Forest Gate, just a few minutes walk from Wanstead Flats. The 'Flats' is a large area of grassland with broom, bramble and hawthorn. In fact, an ideal habitat for *pavonia*. However, in all my years of living near the Flats, I have never seen a wild larva nor have I ever seen a male flying, as one would expect, if a colony, however small, existed.

Wanstead Park was, for me, a twenty minutes walk across the Flats. Although hardly a day passed without my taking a walk 'over the park', I have never seen *pavonia* there either, in any stage. Among the numerous species of Lepidoptera I bred each year at Forest Gate was *pavonia*. Providing my stock did not emerge too early in the season, I could always assemble males in my garden. Although I have no exact dates, it is probably thirty or more years ago that I first assembled a male in my garden. I have had as many as four or five arrive together while females were 'calling' and the time was always between 4 pm. and 5.30pm. The males were always later released and were never seen again, as one would have expected had they originated from a local colony.

Early in April 1982, I moved to South Ilford, which is approximately three miles distant from my previous home. My stock of *pavonia* cocoons began emerging towards the end of April and, as an experiment, I placed a cage containing a freshly emerged female which was 'calling', in my garden. No males arrived, and after two days the female paired with a bred male. I tried assembling males on each day but without success. By early May most of my cocoons had emerged but a few were late in developing. During the second week of May a female emerged and by 3pm. she was 'calling'. At 5.35pm. a male was seen flying over the garden and was not seen again for several minutes. It was having difficulty in locating the female as the wind was very strong and since I needed a wild male, I netted it.

It is certain that no colony exists in or close to Ilford and consequently, I am of the opinion that the males which I have assembled had travelled several miles — possibly more than five miles. How far though, I shall probably never know. My opinion is based on the time from when a calling female is taken into the garden and the period when the first male is noted, which has always been more

*45 Chudleigh Crescent, Ilford, Essex IG3 9AT.

than one hour. This theory is born out by the assembling of other moths in my garden. The lime hawk, *Mimas tiliae* L. is common in the Ilford area. I have picked up from roads larvae which were searching for a pupation site, a few minutes walk from my home. Last June, I placed calling *tiliae* females in my garden at 9.30pm and the first male arrived within fifteen minutes. On another occasion, a male arrived within five minutes. If *pavonia* occurred even three miles distant, they would arrive at my females much sooner than one hour.

Last May I received a 'phone call from an acquaintance living near Amersham, requesting some male pupae of *pavonia* as all his cocoons had emerged and that he had now just one female imago. Unable to help, I suggested he tried assembling in his garden. Two days later, with jubilation, he informed me that he had been successful in assembling a male, although he had never seen *pavonia* in his locality before.

It would be interesting if entomologists breeding *pavonia* carried out this simple experiment. The results, I believe, would be very interesting. If Colin Plant tries assembling *pavonia* in his garden or in the museum's ground, I believe he would be successful. And if he is, I will wager that no colony exists in East Ham or Stratford. More probable — that males would have originated from the east, possibly from Dagenham or Rainham.

I have made several abortive attempts at establishing *pavonia* on Wanstead Flat in the past years. I have tied out egg rings on brambles which subsequently hatched successfully and made regular visits to observe their progress. One year, nine larvae reached maturity but then disappeared. Whether they pupated or not I do not know for no moths were seen the following year.

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RECORDS OF MICROLEPIDOPTERA FROM SOMERSET,
SEPTEMBER, 1984

By A. M. EMMET*

Somerset is predominantly a pastoral county and has largely escaped the destruction of habitat that follows the prairie-farming methods of the arable east. Consequently its flora and fauna are rich. Nevertheless, very little recording of the Microlepidoptera has taken place in the present century. In an otherwise useful list, Turner (1955) described many common species as rare or even extinct in the county because they had not been noted since the publication of *The Victoria County History* (Hudd, 1906). He did not incorporate unpublished records sent to him by Pelham-Clinton or those in a brief list of species new to the county (Pelham-Clinton, 1949). Since the publication of Turner's list, two papers by Emmet (1967; 1973) added 24 microlepidoptera to the county list, gave several new vice-county records and mentioned new localities for many supposedly rare or vanished species. I am not aware of any other list.

In view of this neglect, a party of microlepidopterists comprising E. C. Pelham-Clinton, Dr. J. D. Bradley, Dr. J. R. Langmaid, my wife and myself spent a week in the county from the 8th to the 15th of September, 1984. From our base at Lympsham near Weston-super-Mare, we visited a number of localities in VC5 and VC6; these are listed below. We are grateful to the Nature Conservancy Council and the Somerset Naturalists' Trust for permission to record and collect on some of their reserves, notably Ebbor Gorge and Shapwick Heath.

We recorded in all 197 species of Microlepidoptera of which 33 do not appear at all in the lists mentioned above, and 63 seem to have no prior written record from either VC5 or VC6. Included are some exceedingly common species which have almost certainly been previously taken in Somerset, though perhaps not placed on record. This paper mentions only these "new" species and those which were described by Turner as rare or extinct in Somerset. "New" county records are indicated by two asterisks and "new" vice-county records by a single asterisk. The nomenclature is that of Bradley & Fletcher (1979) with the Addenda & Corrigenda by the same authors incorporated by Hall-Smith (1983).

The localities from which records were made are listed in alphabetical order by vice-counties. Each name is followed by an abbreviation for use in the list, the date of our visit and remarks.

*Labrey Cottage, Victoria Gardens, Saffron Waldon, Essex.

VC5

Bishops Lydeard (BL). 15.ix. A hedgerow where *Teleiodes scriptella* (Hübner) had previously been taken by ECP-C.

Bridgewater Bay Nature Reserve, Otterhampton (BBNR). 12.ix. This includes an area of salt-marsh. We are grateful to the warden for advice on the best ground for recording.

Cothlestone Hill, Park End, Quantocks (CH). 15.ix. Visited by ECP-C and JDB only, en route to Bishops Lydeard.

Holford (H). 12.ix. A rich area of mixed woodland.

Langford Heathfield Nature Reserve, Langford Budville (LHNR). 15.ix. We spent only half an hour on this fine reserve and did no collecting because we had not applied for a permit.

Rexton Gorse, Crowcombe (RG). 15.ix. The woodland is coniferised but there is a fringing belt of deciduous trees.

VC6

Brean Down (BD). 14.ix. Limestone with scrub vegetation.

Cheddar district (CD). 9.ix. Roadside recording along a lane at ST442547 and beside the Cheddar-Shipham road at ST451555.

Ebbor Gorge Nature Reserve (EGNR). 10.ix. Mixed woodland with some open downland. We were most grateful to the warden, Mr. Tom Hodgson, for conducting our party.

Kewstoke (K). 14.ix. We visited the ridge of downland called Middle Hope which forms the northern arm of Sand Bay, and a patch of salt-marsh south of Swallow Cliff.

Loxley Wood, Moorlinch, Polden Hills (LW). 9.ix. Mixed woodland.

Lympsham (L). 8-15.ix. Our base. We ran MV traps every night and examined the local hedgerows.

Shapwick Heath Nature Reserve (SHNR). 11 and 13.ix. On the first visit we approached the reserve from the west where the vegetation is mostly mixed woodland and carr. On the second occasion, after advice from the warden, we approached from the east, where the ground is more open with heather, bog-myrtle, gorse and dwarf willow.

Weston-super-Mare (WsM). 8 and 14.ix. A few records were made on the outskirts in transit to other localities.

LIST OF SELECTED SPECIES

NEPTICULIDAE

- ***Trifurcula cryptella*** (Stainton) *VC6 SHNR. Vacated mines on *Lotus uliginosus*.
- Stigmella fragariella*** (Heyden) VC5 BBNR; LHNr. *VC6 BD; CD. Vacated and a few tenanted mines on *Agrimonia*.
- ***S. dulcella*** (Heinemann) *VC6 CD. Vacated mines on *Fragaria*.
- ***S. splendidissimella*** (Herrich-Schäffer) *VC6 CD. A few tenanted and vacated mines on *Rubus caesius*.
- ***S. ulmariae*** (Wocke) *VC6 SHNR. Tenanted and vacated mines common on *Filipendula ulmaria* beside the track leading to the reserve from the east.
- ***S. serella*** (Stainton) *VC5 LHNr. *VC6 SHNR. Tenanted (Shapwick only) and vacated mines on *Potentilla erecta*.
- S. continuella*** (Stainton) *VC5 RG. VC6 SHNR. Tenanted and vacated mines on *Betula*.
- ***S. speciosa*** (Frey) *VC5 H. *VC6 CD; WsM. A few tenanted and many vacated mines on *Acer pseudoplatanus*.
- ***S. pomella*** (Vaughan) *VC6 CD. Vacated mines on *Malus*.
- S. paradoxa*** (Frey) *VC CH. Vacated mines on *Crataegus*.
- ***S. atricapitella*** (Haworth) *VC5 H; LHNr; RG. *VC6 EGNR; SHNR. Many vacated and a few tenanted mines on *Quercus*.
- S. ruficapitella*** (Haworth) *VC H; LHNr; R. VC6 RGNr; LW; SHNR. Many vacated mines on *Quercus*.
- S. suberivora*** (Stainton) *VC6 WsM. A vacated mine on *Quercus ilex*.
- S. tiliae*** (Frey) VC6 CD. Many tenanted and vacated mines on *Tilia cordata*.
- ***S. malella*** (Stainton) *VC6 CD. a few vacated mines on *Malus*.
- ***S. catharticella*** (Stainton) *VC6 EGNR. A few vacated mines on *Rhamnus*.
- S. nylandriella*** (Tengström) (*aucupariae* (Frey)) VC5 H; RG. Many vacated and a few tenanted mines on *Sorbus aucuparia*.
- S. magdalenae*** (Klimesch) (*nylandriella* auctt.) VC5 RG. A few vacated mines on *Sorbus aucuparia*.
- S. betulicola*** (Stainton) *VC5 H; RG. VC6 SHNR. Many tenanted and vacated mines on *Betula*.
- S. distinguenda*** (Heinemann) VC5 H. VC6 SHNR. A few tenanted and many vacated mines on *Betula*. I recorded this species from Shapwick in 1967 but withdrew the record in 1973 as it was supported by neither mine nor specimen in my collection. It is in fact the most common nepticulid on *Betula* in both localities.
- S. glutinosae*** (Stainton) *VC6 SHNR. Several tenanted and vacated mines on *Alnus*.

TISCHERIIDAE

Tischeria dodonaea Stainton *VC5 H. A single mine on *Quercus* containing a dead larva.

HELIOZELIDAE

Heliozela hammoniella Sorhagen (*betulae* Stainton) *VC5 RG. VC6 SHNR. Many vacated mines on *Betula*.

LYONETIIDAE

Bucculatrix maritima Stainton *VC5 BBNR. VC6 BD, on adjacent salt-marsh; K. Many vacated mines on *Aster tripolium*.

***B. frangulella* (Goeze) *VC6 EGNR; SHNR. Mines and larvae on *Frangula alnus*, abundant at the second locality.

***B. cidarella* Zeller *VC6 SHNR. Vacated mines locally common on *Alnus*. There was no trace of this species on *Myrica*.

B. thoracella (Thunb.) VC6 CD. Mines, moulting cocoons and feeding places abundant on *Tilia cordata*.

B. crataegi Zeller *VC6 K. Two vacated mines and a moulting cocoon on *Crataegus*.

B. demaryella (Duponchel) *VC5 RG. VC6 SHNR. A few vacated mines and moulting cocoons on *Betula*.

GRACILLARIIDAE

Caloptilia betulicola (Hering) *VC5 H; RG. VC6 SHNR. Several vacated mines and rolled leaves on *Betula*.

***Calybites phasianipennella* (Hübner) *VC6 SHNR. An adult and several tenanted mines and cones on *Polygonum*; adults reared.

Parornix finitimella (Zeller) *VC6 EGNR; K; SHNR. A few tenanted mines and folds on *Prunus spinosa*. Old feeding of the first generation was very common.

Phyllonorycter sorbi (Frey) *VC5 H. Many tenanted mines on *Sorbus aucuparia*.

***P. viminiella* (Sircom) *VC6 SHNR. A vacated mine on *Salix viminalis* determined from the pupal exuviae by Dr. M. R. Wilson.

***P. cavella* (Zeller) *VC6 SHNR. A few tenanted mines on *Betula*.

P. quinqueguttella (Stainton) VC5 LHNR. *VC6 SHNE. Tenanted mines on *Salix repens*.

P. lautella (Zeller) VC6 EGNR; SHNR. Several vacated mines on *Quercus*; also identified from pupal exuviae. "Very rare" (Turner, *op. cit.*).

- P. schreberella* (Fabricius) VC5 BL; H. VC6 EGNR; LW. Tenanted and vacated mines common on *Ulmus*. Though described by Turner as "Very rare", we found it to be as plentiful as *P. tristrigella* (Haworth).
- P. ulmifoliella* (Hübner) VC5 H; RG. VC6 SHNR. Mines very common on *Betula*. "Reported as common in birch woods many years ago" (Turner, *op. cit.*).
- P. stettinensis* (Nicelli) *VC6 SHNR. A few tenanted mines on *Alnus*.
- **P. froelichiella* (Zeller) *VC6 SHNR. A few tenanted mines on *Alnus*.
- P. geniculella* (Ragonot) VC5 H. VC6 CD; LW; WsM. Tenanted and vacated mines common on *Acer pseudoplatanus*; first recorded by Emmet (1973).

YPONOMEUTIDAE

- **Ocnorostoma friesei* Svensson *VC6 SHNR. Several tenanted mines on *Pinus sylvestris*. The larvae in the only two that were collected fed up rapidly and left their mines to spin cocoons after a few days; an adult emerged on 13.xi.1984. *O. friesei* regularly has a third generation in the autumn on the Continent, but this has not hitherto been recorded in Britain (D. J. L. Agassiz, pers. comm.). Two similar mines collected in VC5 at RG were probably the same species but the larvae they contained proved to be dead.
- Roeslerstammia erxlebelli* (Fabricius) VC6 CD. Several mines and larvae on *Tilia cordata*. Turner gives no more recent record than that of Hudd (1906).

COLEOPHORIDAE

The "*nigricella*" group. "*Coleophora nigricella* (Steph.) Probably still occurs in some of the old orchards. There are only very old records, however" (Turner, *op. cit.*). The "*nigricella*" of Stephens is now known to consist of three species, two of which we recorded; one feeds sometimes on *Malus*, but it is a secondary foodplant.

- **Coleophora cerasivorella* Packard. Widespread and common on *Crataegus*. At the date of our visit most of the larvae were still in the mines from which they excise their first case. After doing so they feed little, usually making only one or two small blotches close to the mine before fixing to a twig for winter. Consequently they are rarely seen, although the pattern of early feeding is conspicuous and characteristic. Cases of this species were not retained as we did not regard the records as controversial. Among the localities where larvae were found were *VC5 BBNR. *VC6 BD; K; SHNR.

****C. prunifoliae** Doets First instar mines and small cases of the group were locally common on *Prunus spinosa* and samples were collected at *VC6 K and L. The cases were all excised by mid-September. The larvae then fed extensively for about a week after which they attached themselves to a twig for ecdysis. This accomplished, they moved again leaving the discarded head-capsule in the cup of silk where the case had been fixed. As far as could be observed, they did not resume feeding but after several days of wandering selected another position on a twig for overwintering. Although they had fed for much longer and reached a later instar than *C. cerasivorella* in autumn, they seemed to have fed for less long than larvae of *C. prunifoliae* collected in previous years in Essex. Possibly there is some flexibility depending on the season and condition of the food-plant.

Six cases from Kewstoke and six from Lympsam were sleeved out for the winter; three of the former disappeared but the remaining nine produced adults between the 5th and 9th July, 1985. Dissection from each locality showed them to be *C. prunifoliae*. There was no opportunity to search for cases of this group in VC5. The autumnal behaviour of the third member, *C. coracipennella* (Hubner), is still unknown (cf. Emmet, 1984).

****C. milvipennis** Zeller *VC RG. *VC6 SHNR. Larval cases on *Betula*. They were abundant in the western part of Shapwick Heath but rare elsewhere.

C. limosipennella (Duponchel) VC6 LW, several larval cases on *Ulmus* ("Very scarce", Turner, *op. cit.*).

C. viminetella Zeller VC6 SHNR, larval cases on *Salix* and *Myrica* ("Apparently rare", Turner, *op. cit.*).

C. binderella (Kollar) VC6 SHNR, a larval case on *Alnus*.

****C. potentillae** Elisha *VC6 SHNR, many larval cases on *Filipendula spiraea* along the eastern approach to the reserve.

****C. lineolea** (Haworth) *VC6 SHNR, larval cases locally common on *Stachys sylvatica*. Turner's entry under this name refers to *C. striatipennella* Tengström.

C. albidella Herrich-Schäffer VC6 SHNR, an old larval case on a leaf of *Salix viminalis* ("Appears to be very scarce", Turner, *op. cit.*).

****C. anatipennella** (Hübner) *VC6 K; L; Larval cases fairly common on *Prunus spinosa*. Turner placed this species in square brackets, writing "The records are doubtless erroneous, and probably refer to *C. albidella*".

****C. ardeaepennella** Scott *VC6 SHNR, an old larval case on a leaf of *Quercus*.

C. ibipennella Zeller VC6 SHNR, an old larval case on *Betula*.

C. troglodytella (Duponchel) VC5 BBNR. VC6 BD. Many larval cases on *Pulicaria* in each locality.

***C. peribenanderi* (Toll) *VC5 BBNR. *VC6 BD; SHNR. Many larval cases on *Cirsium*.

***C. argentula* (Stephens) *VC5 BBNR; LHNr. *VC6 BD; K; SHNR. Very many larval cases on heads of *Achillea millefolium*; at Langford Heathfield Nature Reserve they were also found on *A. ptarmica*, possibly a hitherto unrecorded foodplant.

***C. atriplicis* Meyrick *VC5 BBNR, very many larval cases on *Atriplex* sp. and *Suaeda*.

ELACHISTIDAE

Elachista gangabella Zeller VC6 CD; EGNR. Larval mines on *Brachypodium*.

E. subalbidella Schl ger VC6 SHNR, a vacated mine on *Molinia*.

OECOPHORIDAE

Hofmanophila pseudospretella (Stainton) *VC6 L, adult at MV.

GELECHIIDAE

***Chrysoesthia sexguttella* (Thunberg) *VC5 BBNR. *VC6 SHNR. Larvae mining leaves of *Atriplex*.

Teleiodes scriptella (H bner) VC5 BL, larvae locally common in folded leaves of *Acer campestre*.

***Scrobipalpa nitentella* (Fuchs) *VC5 BBNR. *VC6 K. Larvae in spinings among leaves and fruits of *Atriplex* sp.

S. costella (Humphreys & Westwood) VC5 BBNR. VC6 L; SHNR. Adults and larval feeding on *Solanum*. ("Very rare and local", Turner, *op. cit.*).

S. acuminatella (Sircom) *VC5 LHNr. VC6 L. Larvae mining leaves of *Cirsium*.

Aproaerema anthyllidella (H bner) VC6 L, several adults at MV light ("Local and uncommon", Turner, *op. cit.*).

MOMPHIDAE

***Mompha langiella* (H bner) *VC6 EGNR, larvae mining leaves of *Circaea lutetiana*.

M. terminella (Humphreys & Westwood) VC6 EGNR, larvae mining leaves of *Circaea lutetiana* ("May be no longer resident", Turner, *op. cit.*).

M. raschkiella (Zeller) *VC5 H. VC6 EGNR; SHNR. Tenanted and vacated mines on *Epilobium angustifolium* ("Very scarce", Turner, *op. cit.*).

TORTRICIDAE

***Phalonidia affinitana* (Douglas) *VC5 BBNR, many larvae in heads of *Aster tripolium*.

Clepsis spectrana (Treitschke) VC6 L, an adult ("Rather scarce and local", Turner, *op. cit.*).

Acleris notana (Donovan) VC5 H. VC6 SHNR. Larvae on *Betula* ("Rather uncommon", Turner, *op. cit.*).

Endothenia gentianaeana (Hübner) VC5 BBNR, larvae in seedheads of *Dipsacus* ("Very local", Turner, *op. cit.*).

***Eucosma tripoliana* (Barrett) *VC5 BBNR, larvae in seedheads of *Aster tripolium*.

Cydia janthinana (Duponchel) *VC5 BBNR. VC6 BD; EGNR; K. Larvae common in fruits of *Crataegus* ("Very scarce and local", Turner, *op. cit.*).

***C. tenebrosana* (Duponchel) *VD6 BD, larvae in fruits of *Rosa*.

Correction

Lita virgella (Thunberg) (*longicornis* (Curtis)). The record from Shapwick (Emmet, 1967:105) was based on a misidentification and should be cancelled.

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THE IMMIGRATION OF LEPIDOPTERA TO THE
BRITISH ISLES IN 1984

By R. F. BRETHERTON* and J. M. CHALMERS-HUNT**

(continued from p.145)

Agrotis ipsilon showed a very curious pattern. From April 17 to May 8, 78 were found in traps in twelve places on the coast from Cornwall, and Sussex to Westmorland, Yorkshire and Orkney, as well as several inland, indicating a large and widespread immigration. Half of these, however, were at Portland Bird Observatory, and the continuation there and in a few places elsewhere of occasional records later in May and into June suggests a possibility that these and some of the early total may have resulted from overwintering larvae. Thereafter the numbers reported at continuously operated traps were very much smaller than usual, though there appear to have been small influxes, as with other species, in late July, mid August, and late in September and October. There seem to have been also local emergences in the later months, and the last was seen at Muston, South East Yorkshire, on December 8. But in most places for most of the year it was regarded as a rare species.

Peridroma saucia, first seen at Portland B. O. on May 10, was also scarce until the autumn. Monthly totals of dated records are May (2), June (3), July (10), August (8), September (6), October (31), November (17). The last were at Bradwell-on-Sea, South Essex, on December 1 and 12. Though always few, the spread was wide: in 19 vice counties, reaching Westmorland and South East Yorkshire and Orkney on the coasts and Surrey, Middlesex, Berkshire, Warwickshire and Rutland inland. It seems to have been common in Guernsey, but only two were seen at Fountainstown, co. Cork in Ireland.

Autographa gamma was as usual the commonest immigrant moth, but certainly in below average numbers. After the first at Portland B.O. on April 8, it was seen widely, but usually only singly until early July. There were fair numbers in mid July, when it reached Caithness and Orkney, and the first large invasion from July 26/30. An influx which consisted almost entirely of the dwarf *f. gammina* occurred in South Devon on August 5, and peak totals of 212 and 138 were counted at Portland B.O. on August 11 and 13, and 262 and 301 on August 21 and 24, after which numbers fell sharply. On September 8th there were 40 very large and dark specimens, probably locally bred, at Rogate, West Sussex; but there were further large invasions in the last days of September and again

*Folly Hill, Birtley Green, Bramley, Guildford, Surrey GU5 0LE.

**1 Hardcourts Close, West Wickham, Kent BR4 9LG.

at the end of October, possibly also in the first week of November. It was last reported at Hayling Island, South Hampshire, on December 18 and 19.

Nomophila noctuella was first noted on May 5 in the Isle of Canna and last at Peacehaven, East Sussex on November 12. It was everywhere very scarce and usually seen only singly; only one of the regularly operated traps, even those on the coast, reported more than a dozen in the whole season. Monthly totals were May (1), May (1), June nil, July (45), August (44), September (31), October (7), November (1). The most northerly records came from Flamborough Head, South East Yorkshire and Beetham, Westmorland; inland only from Surrey, Berkshire and a single from Ledbury, Herefordshire on September 7. In Ireland three were trapped in July at Roundwood, co. Wicklow, but at Fountainstown, co. Cork only four were seen from August 16 to October 10. In Guernsey six were noted in the last half of July and one in August.

Udea ferrugalis did considerably better than *N. noctuella*. The first was seen at Trebrowbridge, East Cornwall on January 6: a tribute to the mild winter. No more were seen until mid July, after which numbers rose steadily to a high level in late October and November, immigrants being probably supplemented by local emergences. The last was trapped at Wisley, Surrey on December 3. Monthly dated records were January (1), July (36), August (25), September (72), October (113), November (100), December (2). Most of the records came from the south coast, especially from Cornwall and Sussex; but 20 were disturbed by day in the Isle of Sheppey, north Kent, 176 in South Essex, and it was seen in small numbers in Lincolnshire, South East Yorkshire, Carmarthenshire and Westmorland. Inland, there were some at four places in Surrey, in some numbers in Berkshire, and singly at Hampstead, Middlesex and Ledbury, Herefordshire. In Ireland there were very small numbers at Roundstone, Riverstock and Fountainstown in co. Cork; in Guernsey it seems to have been plentiful.

Plutella xylostella is often overlooked, but it was clearly not common. The few records, beginning with one at Ledbury, Herefordshire on April 22, coincided in date with other immigrants; but there were no indications of any large invasion. A few were seen in Orkney on June 6, and in two places in the Isle of Man on August 23.

Phlogophora meticulosa, which is both immigrant and resident, was fairly numerous and regular, except in August, throughout from April to late October. The regularity, which resulted from good larval survival during the mild winter and from later breeding, disguised the effects of probably several immigrations, of which at least those in late September and in October seem to have been considerable.

The reasons for the startling contrast in the abundance of immigrant species in 1983 and 1984 are not clear. Except for the much colder weather in May and June the domestic weather patterns for the two years were similar: mild winters, long periods of warmth and drought through July and August, much rain and disturbed weather in September and October, and a mild spell in early November. But in 1984, after a false start in April, the immigrations came later and, though they were frequent, they contained much fewer individuals and lacked variety of species. This suggests that, except perhaps at the end of July, they came from western Europe, where the season was later even than in Britain, rather than from further afield. There was an almost complete absence of the scarcer *Plusias* and other tropical moths, but there were many reports of probably immigrant examples of resident species. The small numbers and late arrivals of immigrants also reduced the amount of successful local breeding, for which the warmth of July and August was otherwise favourable.

We have been well supported by good numbers of recorders, both direct and indirect, to whom we offer grateful thanks. Many of them, perhaps because of the paucity of scarcer immigrants, have given more detailed observations than usual of the commoner species, which have therefore been treated at greater length in this note.

ANNEXE I

Names of direct recorders

Names of recorders who have sent their records to us directly are listed below. Many of them have included also records obtained from other observers, to whom we are grateful. It is not practicable to list all their names, but some of them appear in Annexe II.

Acklam, G.	Bradford, E. S.	Corley, M. H. V.
Agassiz, Rev. D. J. A.	Bretherton, I.	Costen, P.
Albertini, M. A.	Bretherton, R. F.	Craik, Dr. J. C. A.
Aldrich-Blake, Dr. P.	Briggs, J.	Cribb, P. W.
Aldridge, J. D.	Brown, D. C. G.	
Austen, R.	Bury, Dr. J. P.	
		Dewick, A. J.
		Dewick, S.
Baker, B. R.	Cade, M.	Dey, D.
Baker, P. J.	Campbell, J. L.	Dobson, A. H.
Baldwin, A. J.	Chalmers-Hunt, J. M.	Duddington, J.
Birchenough, R. F.	Church, S.	Dyke, R.
Bond, K. G. M.	Classey, E. W.	
Bowen, Mrs. D.	Collins, J. A.	Easterbrook, M. A.

- | | | |
|-----------------------|---------------------|----------------------------|
| Else, G. R. | Laidlaw, D. | Revell, R. J. |
| Emmet, A. M. | Langmaid, Dr. J. R. | Riley, A. |
| Eveleigh, B. J. | Lear, N. W. | |
| | Lefevre, Miss H. | Simpson, M. S. L. |
| Fairclough, R. | LePard, D. | Singleton, R. |
| Fenn, J. L. | Lewis, Owen | Skinner, B. |
| Foley, M. J. Y. | Lindley, Dr. L. | Slade, B. E., A.M. & D. J. |
| Foster, A. J. | Lorimer, R. I. | Smith, E.G. |
| Fraser, J. D. | Lovell-Pank, R. | Smith, Dr. F. H. N. |
| | Luckens, Dr. C. J. | Smith, Roger |
| | | Softly, R. A. |
| | | Sokoloff, P. A. |
| Gardner, A. | MacNulty, Dr. B. J. | Spalding, A. |
| Gascoigne-Pees, M. R. | Melling, T. M. | Spence, B. R. |
| Gibson, C. W. D. | Madge, S. C. | Stallwood, B. R. |
| Gill, N. | Melling, T. M. | Sterling, D. H. |
| Goater, B. | Miller, J. R. | Sterling, M. J. |
| Green, J. E. | Morgan, I. K. | Sterling, P. H. |
| Greenwood, J. A. C. | Moore, B. W. | Swanson, S. |
| | Myers, Dr. A. A. | |
| | | Tidmarsh, J. S. C. |
| Hall, N. M. | | Torlesse, A. D. |
| Halsey, J. & M. | Nash, S. | Tubbs, R. S. |
| Halstead, A. J. | | Tucker, V. |
| Harman, T. W. | Parsons, M. S. | Tweedie, M. W. F. |
| Harman, A. S. | Peet, T. N. D. | |
| Harper, Dr. M. W. | Philp, E. G. | |
| Hart, C. | Philpott, D. W. | Waring, P. M. |
| Haynes, R. F. | Pilcher, R. E. M. | Walters, J. M. |
| Hollindale, P. | Pittis, Rev. S. P. | Webb, Dr. N. R. |
| Holloway, P. | Plant, C. W. | West, B. K. |
| Hulme, D. | Pollard, Dr. E. | Whitehead, P. |
| | Pooles, S. W. | Wilson, D. E. |
| | Portland Bird | Wilson, J. |
| Johnston, A. F. | Observatory | Winter, P. Q. |
| Jupp, C. | | Woiwod, I. |
| Knill-Jones, S. A. | Pratt, C. R. | Wooltorton, H. |
| | | |
| Kydd, D. W. | | Youden, G. H. |

ANNEXE II

Records of scarce immigrant species in 1984

Suspected immigrants of resident species are marked*. Unless otherwise indicated, single examples are referred to. For nocturnal species dates are as far as possible of the beginning of the night. Names of direct recorders are abbreviated to their initials (see Annexe I), except where these are the same; names of these and of indirect recorders appear in full.

*CAROPTRIA MARGARITELLUS D. & S. KENT E. Deal, 26.7 (GHY, *Ent. Rec.* 97: 27). Probably immigrant.

*SITACHROA PALEALIS D. & S. CORNWALL W. Lizard, 1.8 (NMH). HANTS S. Winchester, 18.7, 30.7 (DHS). SUSSEX E. Peacehaven, 19.8 (CRP). Possibly immigrant.

*EVERGESTIS EXTIMALIS Scop. CORNWALL W. Lizard, 23.8 (NMH). HANTS S. Winchester, 11.8 (DHS); Sway, 21.8 (ADT). Perhaps immigrant.

*OSTRINIA NUBILALIS Hb. CORNWALL E. Trebrownbridge, 17.7 (AS). ESSEX S. Bradwell-on-Sea, 9.7/29.9, fifty. (AJD, SD). SUSSEX E. Camber, 18.6 (MSP); Ninfield, n.e.d. (MSP); Peacehaven, 8.7/13.8, twelve (CPR). Possibly some immigrant, otherwise recent internal spread.

DIASEMIOPSIS RAMBURIALIS Dup. CORNWALL E. Trebrownbridge, 2.9, 28.10, 29.10 (AS). Essex S. Matching, 13.7 (RF).

PALPITA UNIONALIS Hb. CORNWALL E. Sheviok, 29.10 (SCM). SURREY South Croydon, 17.8 (GAC).

*HETEROGRAPHIS OBLITELLA Zell. BERKS. Wytham Wood, 19.8, 20.8 (PHS). DORSET. Portland, 19.8, 20.8 (NMH). Possibly immigrant, otherwise large extension of internal range.

*PAPILIO MACHAON L. DORSET. Lodmoor, 20.6, 22.8, possibly escapes from Weymouth butterfly farm (MC); Radipole, 12.7 (per NRW); Stoborough, dead in a greenhouse (per NRW). HANTS. S. Pilly Hill, twelve larvae on garden carrot (*Southern Daily Echo*, 26.8, per BG). Possibly resulting from a female escape or release from nearby butterfly farm.

IPHICLIDES PODALIRIUS L. HEREFORD S. Near Ross-on-Wye, in a garden, 26.8, followed closely examined, and distinguished from *P. machaon*. No local rearing of the species known (Dr. P. Aldrich-Blake, by phone and *in litt.* 17.9). Probably immigrant with other species at that date.

PONTIA DAPLIDICE L. SOMERSET N. Weston-s-Mare, 7 and 8. 7, female watched and sketched on garden buddleia near the sea. Confirmed from sketch by RFB (Mrs K. Jones per NWL). HANTS. S. Fair Oak near Eastleigh, 16.7, male watched flying through garden (Paul Holloway, nature writer, in *Southampton Echo*, 12.12.84, confirmed *in litt.* 26.2.85).

*GONEPTERYX RHAMNI L. ISLES OF SCILLY. Pendennis Head, St. Mary's 24.4, male flying south east along the coast (J. D. Aldridge, *in litt.* 4.9.84). The larval foodplants, *Rhamnus* sp. are not known to occur in Scilly, and examples of *C. crocea* and several continental birds were seen on the same day, so that it was more probably immigrant rather than straying from the Cornish mainland.

[CLOSSIANA DIA L. SURREY. North Downs, 24.8, male in good condition caught by Philip Cribb (per PWC). Later inquiries have revealed that c.50 nearly full grown larvae reared from continental stock were released on July 26 near the place of this capture.]

DANAUS PLEXIPPUS L. CORNWALL E. Downderry, 20.7, 7 p.m. on garden buddleia, clearly seen (R. Carter per FHNS and SCM). DORSET. Lodmoor, 19.7, possibly an escape from butterfly farm (MC).

NYMPHALIS ANTIOPA L. (8) BUCKS. Sentry Hill, Marlow, 26.8: no evidence of local escapes or releases (O.Wedd per VMA). ESSEX N. West Mersea, 27.9, in garden (Dr. D. Gray per RST). HANTS. S. Southampton, 6.8, on buddleia (T. Bemhead per CJL). HANTS N. Alton, 8.8 (D. Le Pard). LINCS N. Gibraltar Point, 6.8, seen trying to enter the bird observatory (R. Lambert, per J. Dudington). MIDDLESEX Grange Park, 25.9 (R. Dyke). SUSSEX E. Ninfield, 28/29.7, possibly a release (D. W. S. Elphick per CRP); Rye, 28.8, on quay side (MWFT).

N. POLYCHLOROS L. KENT E. Orlestone Forest, 27.7. (M. Enfield per EGP).

SATURNIA PYRI D. & S. HANTS. S. Swaythling, 24.8, fluttering in grass beside M.27. (K. Watson per BG). Probably the first British record. The species is found in France near the coast from Finisterre to Calvados; but it is not a recognised migrant, and the place and circumstances of capture suggest that it arrived through Southampton in a car or lorry, or was an escape from captivity.

*SCOPULA RUBIGINATA Hufn. CORNWALL W. Lizard, 22.8, two at light with vast numbers of *A. gamma* (B. K. West, identity confirmed by JMC-H). The first Cornish record; probably immigrant, only known to be resident in East Anglia.

RHODOMETRA SACRARIA L. (66) BERKS. Aldermaston, 23.8 (M. Silver per BRB); Shrivenham, 12.9 (S. Nash, *Ent. Gaz.* 36:77); Faringdon, 2.11 (MFVC). BUCKS. Bernwood Forest, 5.9 (PMW). CORNWALL W. Lizard, 14.9 (AG). CORNWALL E. Trebrownebridge, 24.8, 2.9, 3.9, 7.9, the last two brown striped (AS); Sheviok, 24.8, two, 27.8, 1.9; Anthony, 28.9, by day on saltmarsh (SCM). DEVON S. Yarner Wood, 20.8, 25.8, 27.8, 2.9, two (per IW and AR). DORSET. Portland B.O., 24.8 (per NMH). DURHAM Chester-le-Street, 2.9 (per IW and AR). ESSEX S.

Bradwell-on-Sea, 10.8 (SD). HANTS. N. Oakley, 24.8, worn female, eggs infertile (AHD). HANTS S. Hayling Island, 25.8, two (JMW). HERTS. Potters Bar, 28.9 (R-LP). KENT W. Dartford, 4.8., male (BKW). MIDDLESEX Hampstead 7.9 (RAS). SURREY Wisley, 2.9 (AJH); Leigh, 8.8, very worn, 25.8, fresh 7.10 (RF). SUSSEX W. West Dean, 25.7 (C. Robinson per CRP); Rogate, 30.7, 1.9, 16.10, f. *sanguinaria* (JACG); Walberton, 21.9, 28.9, two (J. Radford per CRP). SUSSEX E. Ringmer, 8.8 (A. Batten per CRP); Peacehaven, 6.9 (CRP). WARWICKS. Charlecote, 2.9 (DCGB); Pailton near Rugby, 7.9, 8.9, two (Dr. Greenwood per DCGB). WESTMORLAND/FURNESS South Walney, 6.9, three, 7.9, 8.9, 13.9 (T. Dean per DWK). YORKS v.c. 61 Muston, 7.9, on lighted window (PQW). CARMARTHEN Rhandirmwyn, 24.8 (per IW and AR). CO. CORK Fountainstown, 23.8, male, 12.9, 22.9 (AAM). CO. WICKLOW Bray Head, 25.8, brown lined (KGMB). GUERNSEY Le Chene, 23.8, 26.8, 8.9 (TNDP); Clare Mare, 2.9, 9.9 (P. Costen); St. John, 26.8; L'Ancrese, 26.8; Icart, 27.8 (R. Austen).

ORTHONAMA OBSTIPATA F. (9) CORNWALL E. Trebrow-bridge, 1.11 (AS). DEVON S. Yarner Wood, 28.7; Star Cross, 2.11 (per IW and AR). SUSSEX W. Walberton, 2.11, two, 9.11, 11.11 (J. Radford per CRP). SUSSEX E. Newhaven 21.4 (S. Curson per CRP). ESSEX S. Bradwell-on-Sea, 8.10 (SD).

SEMIOTHISA SIGNARIA Hb. KENT E. Orlestone Forest, 31.7 (JLF, *Ent. Rec.*, 96:215; idem, *Proc. Trans. Br. ent. nat. Hist. Soc.*, 18:9).

(to be concluded)

Notes and Observations

FERAL FOODPLANTS OF LITHOPHANE LEAUTIERI HESPERICA BOURSIN (BLAIR'S SHOULDER-KNOT). — Since October 1979 when the first specimen of *L. leautieri* appeared in the garden trap this species has steadily increased in numbers up to 1984 when over 40 specimens were recorded between 2nd October and 12th November with a maximum total for one night being 12 on 15th October.

In view of these numbers and as the only previously recorded foodplant in Britain, *Cupressus macrocarpa* (Monterey Cypress), is absent from the immediate district it was logical to assume the species was breeding locally on other members of the Cypress family. This assumption was confirmed on 14th June 1985 by beating the well established (20-25ft high) Cypress trees in my own garden, made up of eight of the hybrid *Cupressocyparis leylandii* (Leyland Cypress) and seven *Chamaecyparis lawsoniana* (Lawson's Cypress). A somewhat cursory beat of the lower (up to six feet) branches yielded a few larvae from each of the *leylandii*, but none from the

lawsoniana. This was followed by a thorough beating of one of the largest *leylandii* which resulted in a further 17 larvae ranging from third instar (8mm) to half grown (17mm). It was not practical even with ladders to reach the uppermost five feet or so. A second attempt at the *lawsoniana* eventually yielded a handful of larvae from the higher branches, but it was very evident that as far as my garden was concerned *leylandii* was the much preferred host plant. It might be of interest to add here that no such preference is shown by *Eupithecia intricata arceuthata* Freyer, a common species in the garden, the larvae of which occur on both species of Cypress in equal numbers.

In the 1950s when *L. leautieri* was first reared from British stock it was inferred by H. B. D. Kettlewell (*Ent.* 90: 285) and G. M. Haggett (*Proc. Trans. Br. ent. nat. Hist. Soc.* 1: 73) that the male flowers of *macrocarpa* constituted an essential part of the young larva's diet. This is certainly not the case of larvae feeding on *leylandii* as the trees in my garden do not bear flowers, whereas the less preferred *lawsoniana* does so prolifically. I have also in past years successfully reared the species from the egg entirely on the foliage of *leylandii*. — BERNARD SKINNER, 5 Rawlins Close, South Croydon, Surrey.

JOHN ABBOT'S LONDON YEARS: SOME ADDENDA. — The following observations refer to my "John Abbot's London years," 96: 110-123, 165-176, 222-229, 273-285.

Page 172, fn. 32: Among the manuscripts of the entomologist William Jones of Chelsea (d. 1818) preserved in the Library, Hope Entomological Collections, Oxford, is a series of extracts copied from "Dru" Drury's journals for 1764-1766. I have not yet been able to examine the extracts, but revealing quotations from them which illustrate Drury's collecting activities in the field were included by E. B. Poulton *et. al.* in "English names regularly used for British Lepidoptera up to the end of the eighteenth century, with a biographical account of William Jones of Chelsea," *Trans. Soc. Br. Ent.* 1 (1934), 139-184.

Page 174, fn. 42: Since writing the footnote I have consulted E. B. Poulton, "The Society of Entomologists of London for the Study of Insects," *Proc. R. ent. Soc. Lond.* 8 (1933), 97-104, which contains much information about Drury's society of 1780-1782, again taken from William Jones' materials in the Hope Collections library. Jones was the group's secretary. His MSS. at Oxford are generally described by Gavin Bridson *et. al.*, *Natural history manuscript resources in the British Isles* (London, 1980), 334, entries 342.2 and 342.30.

Page 224: "subsequent authors piled Ossa upon Pelion." The admittedly obscure reference is to a once well-known school joke,

which I have heard classics masters attribute to Robert Graves although it is surely much older. It states (in various ways according to the the telling) that a monumental example of getting things backward would be to pile Ossa upon Pelion. The reason for the use of this reversal is evident from my preceding text. In Greek mythology, the giants Ephialtes and Otus made war on the gods and attempted an assault by piling Mt. Pelion on Mt. Ossa; more precisely "they strove to pile Ossa on Olympus, and on Ossa Pelion with the trembling forest leaves, that there might be a pathway to the sky" (*Odyssey*, XI, Butcher and Lang translation).

Page 281: "Drury died in 1803." Authors have disagreed on the year of Drury's death, some choosing a date in 1804. My source is the obituary in *Gentleman's Mag.* 84, part 1 (January 1804), 86, which unequivocally states that Drury died on 15 December 1803. — RONALD S. WILKINSON, 228 Ninth Street N. E. Washington, D.C. 20002, U.S.A.

ABERRATIONS OF THE HEATH FRITILLARY (*MELICTA ATHALIA* ROTT.) IN CORNWALL 1984 —During the flight period of the heath fritillary in June 1984 I spent four days of a Cornish holiday studying and photographing this species. Two adjacent localities were surveyed, the first yielding only four individuals plus a pair dead in a spider's web. The second, more sheltered locality was more rewarding with *athalia* the most numerous butterfly.

For obvious reasons I will not name the site, but would like to place on record my sightings of two aberrations of this butterfly. They were both encountered on 25 June, a very warm day (*ca.* 74°F) with continuous sunshine, albeit windy on exposed areas. Most species were found in the woodland rides and the majority of both sexes, including aberrations, were fresh.

Referring to the work "*Aberrations of British Butterflies*" by A.D.A. Russwurm, the more aberrant of the two was quite clearly a female of the ab. *cymothoe* Bertolini. The forewings had only the marginal tawny markings left unobscured, the hindwings being practically similar to those of a typical female. This was the only difference to Russwurm's plates as far as I can tell, for the underside forewings displayed the *cymothoe* radiated discoidal markings. For a moment when the butterfly first settled open-winged in front of me, I thought I had somehow miraculously come across a mountain ringlet (*Erebia epiphron* Knoch)!

The second aberration was unusual but not as striking. It was a male, totally typical except for the left upperside hindwing which was coloured of a paler hue, representative of the female's lighter ground colour. The size of the markings were however constant on all four wings. Even though a less striking aberration than *cymothoe* the butterfly stood out in the sunshine as he imbibed the bramble nectar.

Both these aberrations and many of the typical forms were successfully captured on slide film to remind me of my first visit to the quarters of our rarest resident butterfly. P. BOWLER, 9 Bakers Hill, Heage, Derbyshire DE5 2BL.

FACTORS LEADING TO A LOCAL ABUNDANCE OF EURODRYAS AURINIA ROTTEMBURG (MARSH FRITILLARY) IN WORCESTERSHIRE IN 1984 — In April 1984 larvae of *Eurodryas aurinia*, were so abundant at the only known breeding site in Worcestershire that it was impossible to walk along some of the rides in the private woodland without treading on them. The first butterflies were seen as early as May 14th. and subsequently they were in profusion. It is worth reviewing the factors which have led to this most pleasing situation, especially because, as far as I can ascertain, *aurinia* is still absent from all surrounding counties except Gloucestershire.

I reported (*Ent. Rec.* 89: 331) the re-appearance of this species in Worcestershire in 1976 after an apparent absence of 23 years. Studies during the poor summers of 1977 and 1978 showed that the colony was weak, only breeding very locally despite an abundance of *Succisa pratensis* (devil's bit scabious). 1979 saw an improvement, but with news of a planned clear felling of a large area followed by installation of deep drainage prior to replanting with conifers, it was decided to establish a captive stock. I sent some larvae to Dr. Keith Porter at Oxford University for determination of parasites, but surprisingly there were none, and subsequently he returned them all as pupae which hatched out without any losses. Work in the woods with heavy machinery devastated the observed breeding areas, so in 1980 the bred stock was released in what appeared to be the best adjacent area.

The winter of 1981 was unfavourably mild and wet, followed by a cool spring, and the first butterflies did not appear until 6th. June. However, by this time the *S. pratensis* had begun to recover well and the site was much more open. In early September an encouraging number of larval webs were found. 1982 started with a hard, cold winter which may well have been a factor in reducing the number of predators; the spring was the sunniest since 1955 and from late May there was a relatively large emergence. Indeed the summer of 1982 turned out to be the first of three successive good summers, and *aurinia* has since progressively increased in numbers. It will be interesting to see if the present hard winter will prove to be another beneficial factor.

Last year (1984), there was clear evidence of gravid females spreading into the surrounding countryside, and we are hopeful that the species may re-appear in other old haunts in the West Midlands which have escaped agricultural changes. However, if this happens, it may not be a process of natural extension. Several

cases have come to my notice of larval webs being taken without permission, and bred imagines released without reference either to the N.C.C. or the County Nature Conservation Trust. For example, a dozen or so butterflies found to the north of Evesham in 1983 were probably the result of such action, because the habitat was unsuitable and there is no *S. pratensis* in the area.

I still reflect on the origin of those butterflies which re-appeared in 1976. Had *aurinia* remained there for 23 years at low density and escaped detection until the good summers of 1973 and 1975 resulted in a build up of numbers? — or were they the consequence of a natural spread from an unknown nearby colony? — or did someone introduce them? We do not know, but we do have this excellent site for *aurinia* in Worcestershire today. Long may it continue! J. E. GREEN, 25 Knoll Lane, Poolbrook, Malvern, WR14 3JU.

DEATH'S HEAD HAWK: *ACHERONTIA ATROPOS* LINN. IN HAMPSHIRE — On 22 September 1984 two larvae of *atropos* were found in a small garden in Chilbottom, Hants. One was crawling down a garden path having been disturbed by the pulling of potato haulms. The other, much smaller, was feeding on unpulled potatoes. The larger larva, in its final instar, was bright yellow with light blue stripes, pupating on 26th September. The smaller larva, in its penultimate instar, was similarly coloured but moulted on 24th September to the rarer brown form with three bright white rings behind the head and a dark line down the centre of the back. It ceased feeding on 6th October, and went to ground.

The two large, healthy pupae were kept in the airing cupboard at about 70°C throughout the winter, but failed to emerge although they were very much alive. In May they were transferred to the kitchen — they wriggled energetically whenever light fell on them — and two fine males emerged on 20 June 1985. Although this species is known to diapause if kept in cool, frost free conditions, it is unusual to find such a prolonged pupal stage at elevated temperatures. Brig. E. L. SIMSON, 4 Plowden Park, Aston Rowant, Oxford.

DRAGONFLY EGGLAYING HABITS: *AESHNA CYANEA* (MÜLLER)— Males of many dragonfly species participate in egg-laying, either actively as the leading partner of a tandem pair, or passively as a spectator, supervisor or protector of the female. Of some, however, the textbooks say that the female "oviposits unattended by the male". One such is *Aeshna cyanea* (Müller), but I suspect that this male also is more responsible.

Wanting photographs of this species, I frequented Savernake Forest ponds in late summer, 1963, but found the insects too active. Then, on the warm, sunny, late afternoon on 23 August, I again visited my favourite pond. My approach was halted by the

abrupt aerial assault of a male *cyanea*, who harassed me until I reached the edge of the pond and stopped to adjust my camera. He settled in brambles beside me. I snapped him at 20 inches, then at 15 inches. He remained posing as I changed the lens and snapped again at 8 inches. When, hopelessly entangled in the thorns, I accidentally hit him with the camera, he moved away about a foot.

I could bear it no longer; had to get up and stretch. Suddenly, I remembered the object of my visit; the pond behind me. Turning slowly, I saw a female laying in a rotten log about 5 inches above the surface. I took a snap, then realised the light was poor. While re-adjusting, I glanced at the male who, in one movement flew straight at his mate, seized her by the neck, and lifted her away to the tree-tops.

Now, no one will convince me that he was not "in attendance", and doing his duty most effectively. He had diverted me from his mate, kept me engaged while she did her job in peace, and removed her when he considered the situation called for it.

Ae. cyanea males have often been recorded as aggressive to human presence, but I have seen no reason offered. They have also been reported "attacking" their own and other species of either sex, even carrying them away loosely "*in cop*"; promiscuity has been alleged, and worse implied. Is not the reason simply defence, either of his mate or of her territory? Sometimes, perhaps, combined with the urge to "teach him a lesson". C. F. COWAN, 4 Thornfield Terrace, Grange-over-Sands, Cumbria LA11 7DR.

LARGE EGG BATCH OF *HAMEARIS LUCINA* L. (DUKE OF BURGUNDY) — On a recent visit to a locally well-known Bedfordshire site for *lucina* my wife and I discovered twelve eggs of this species (one batch of ten and a separate pair) on one leaf of *Primula veris* (cowslip). This is an unusual occurrence as they are normally laid either singly or in groups of two or three. ADRIAN M. RILEY, 9 Linmere Walk, Houghton Regis, Bedfordshire.

Current Literature

Atlas of Neotropical Lepidoptera, Volume 2, Checklist: Part I, Micropterigoidea — Immoidea by J. B. Heppner (editor) et al., 140 pp., cloth. Dr. W. Junk BV Publishers, The Hague. 1984. Price approx. £25.

The concept of an "Atlas" of the lepidopterous fauna of the neotropics is awe-inspiring, especially when one considers that the region extends from Mexico and the West Indies to Patagonia and the Falklands and contains many faunistically diverse areas. It encompasses the super-rich tropical forest of Central America, though regrettably this richness may already be in serious decline because of excessive encroachment.

The Atlas is planned as a synoptic work, based on the latest classification and illustrating as far as possible all the known species recorded from the region, with a diagnosis and bionomic data for each species. An ambitious venture, it is to be welcomed as a co-operative project sponsored by the New World nations. It will run into an estimated 125 volumes, of which vols. 8-122 will comprise 79 fascicles of illustrated text, vol. 1 will be a general introduction, vols. 2-7 will form the checklist, vols. 123-124 the bibliography, and the final volume a general index.

Part I of the systematically arranged Checklist is the only part of the series yet published. It lists 4189 species representing 41 families of the more primitive (micro-moths) of the Lepidoptera. Authorship and year of description are cited for each genus and species, and the original genus and country of origin are given for the species. The introduction includes an outline of the proposed classification and also a short bibliography. A general plan of the work is given in the Preface, and also a list of the 40 contributing authors from the Americas and Europe who are currently engaged on the project. New taxonomic data have been included in the checklist, in terms of new synonymies, new combinations and a new subfamily, Attevininae. A generic synopsis precedes the checklist, and the latter is followed by two pages of taxonomic notes and separate indices to genera and species.

The Atlas was initiated six years ago by its editor and part author, Dr. J. B. Heppner, of the Centre for Arthropod Systematics, Florida State Collection of Arthropods, and its realisation must be largely due to his perseverance in obtaining administrative and financial backing and success in forming a strong supporting team of Lepidoptera specialists. As envisaged the series will be unique and of a magnitude reflecting that of the region it is planned to cover. Although primarily a much needed and invaluable illustrated inventory of the neotropical Lepidoptera, it will undoubtedly have a worldwide interest because of the taxonomic content.

The series is expected to take 20 years to complete, thus quashing any premature alarm as to the total cost of the 125 volumes. Librarians may need to budget long-term in order to secure the full set of this unique and important reference work, but the lone lepidopterist may be content to choose only the parts that touch on his particular interest. — J. D. BRADLEY.

Colour Identification Guide to the Butterflies in the British Isles
by T. G. Howarth. 151 pp. 48 pl. 5 figs. Viking 1984. £14.95.

This is a revised edition of a book first published in 1973, which was reviewed in this magazine at that time, (*Ent. Rec.* 86:76). The present book is prefaced by several introductory chapters

dealing briefly with such subjects as elementary butterfly structure, variation and family divisions of British Rhopalocera. The only changes here are in the section on conservation where the original comments have been expanded slightly to include a note on the wildlife habitats. Information tables follow-excellent summaries but very little revised from the 1973 version, except in isolated instances where changes in distribution and abundance are recorded. For example the heath fritillary (but not the high brown fritillary) has been commented on, and the supposed extinction of the large blue is also noted.

An identification key, classified list and the usual list of books, dealers and societies complete the text. The main part of the book, as the title suggests, consists of coloured plates; the adult butterflies are by A. D. A. Russwurm and early stages are copied from F. W. Frohawk's originals by R. B. Davis. A wholly justified criticism in the 1973 edition was of the enlargement of the adult butterfly figures. This has now been improved but, though the scale is stated as natural size for all butterfly plates, some are still clearly larger than life. Among the most obvious of these are the majority of the large heaths on Plate 22, and the first two ringlets, on Plate 23. Also a little doubtful are the typical pair of chequered skippers, Plate 1 and some of the otherwise delightful chalkhill blues. By contrast, the figures of the scotch argus and marbled whites seem slightly smaller than average. However, reduction in size has resulted in some superb butterfly plates and the colour reproduction is also vastly superior to the earlier edition. Improved veracity of colour is particularly striking in the skippers, Plate 1; wood whites, Plate 2; and the blues, on Plate 7 and 8. Donald Russwurm's affection for the *Lycaenidae* is particularly evident in the latter two plates, and I found myself turning repeatedly to Plate 7, where the illustrations of silver studded blue, brown argus and common blue are quite outstanding. Plates 20 and 21 (meadow browns, gatekeepers and small heaths) are also excellent. The brimstones on Plate 3 do not quite hit the mark, but apart from the slight discrepancies in scale already mentioned this is the only other criticism of the butterfly Plates.

The early stages have been reduced in a similar fashion and here I feel it has been less successful. Some definition of larval form and colour has been lost as a result and a comparison of Plate 42 of the current volume, with the earlier enlarged version, shows this most clearly.

All in all, however, this is a book well worth having in its new format. The mainly tabular text is concise and invariably accurate, but its real achievement is its colour plates in which typical and aberrational forms of the British butterflies are given masterly treatment. C. J. LUCKENS.

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AND JOURNAL OF VARIATION

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with the assistance of

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NEVILLE BIRKETT, M.A., M.B.

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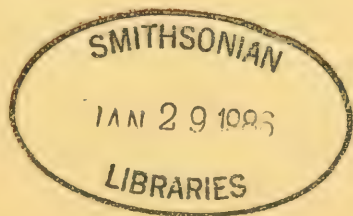
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AN ACCOUNT OF REARING THE SMALL DOTTED
FOOTMAN MOTH, *PELOSIA OBTUSA*
(HERRICH-SCHÄFFER) LEP.: ARCTIIDAE

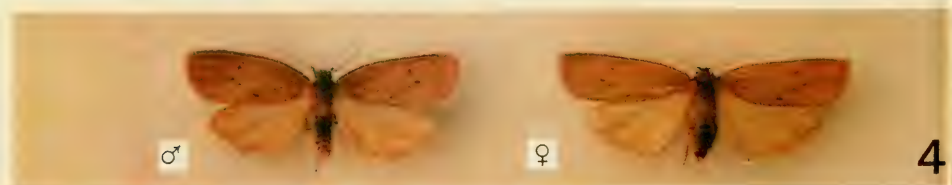
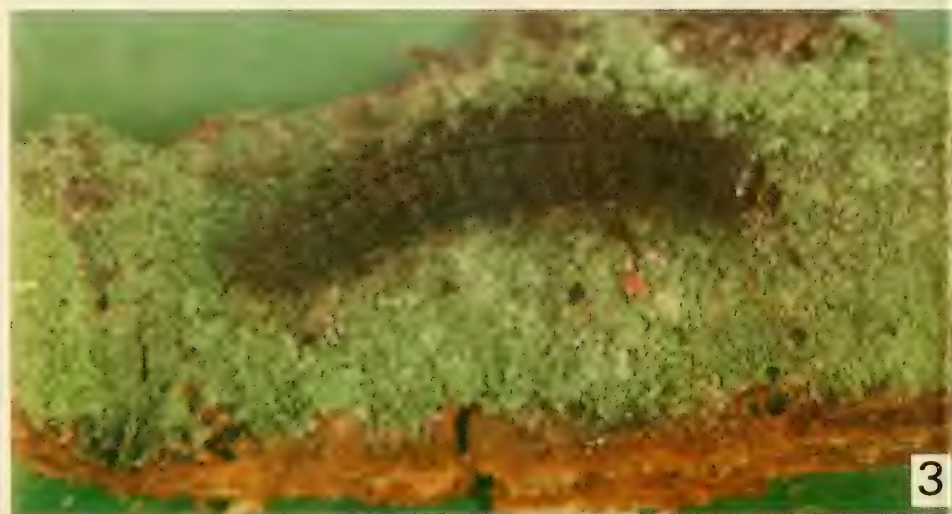
By COLIN HART*

I have been trying to locate this elusive moth for some years in its only known habitat in Great Britain of the Norfolk Broads. The search had been unsuccessful despite my idea of using a hired holiday cruiser to reach otherwise inaccessible localities. Finally, at a site suggested by Bernard Skinner, I caught a male *obtusa* at light on the night of 25th July 1983 and a female three nights later. It would appear that the males are attracted to light from about 11pm onwards, but the female was not at light, she was found crawling up my jeans at 10.30pm, and I assume she had been disturbed from amongst the reeds.

The moth was retained in a plastic box which was kept damp so as to keep the humidity high in an attempt to mimic the environment at the base of the reeds. A total of forty ova were laid during the following two nights. A few eggs were scattered individually round the box but the majority were laid in two small batches of thirteen and nineteen eggs, laid neatly in interlocking rows. The ovum is pale pinkish-buff in colour and the shape of a slightly flattened hemisphere of diameter 0.3mm. The surface is shiny with a reticulated pattern of depressions. The eggshell is translucent and any colour that the egg has comes from the contents within. The ova were kept at room temperature (about 22°C in a period of hot weather) and hatched in eleven days. The curled up larvae were clearly visible with the aid of a lens on the day prior to eclosion.

The newly hatched larva is about 2 mm long, light brownish grey and moderately hairy. They were given a choice of foodplants including reed, cocksfoot grass, willow, dandelion, lettuce and convolvulus (a species of convolvulus occurs in the habitat). The larvae wandered around a great deal and nibbled the lettuce in a desultory manner producing a little frass. After three days and growing slightly frantic I introduced a small piece of dead wood which had a growth of the green alga *Desmococcus* (= *Pleurococcus*) on the surface. This was a popular move as within a few hours all the larvae had congregated on the wood surface and were feeding on the alga. They continued to eat the *Desmococcus* and I experienced no further problems with feeding. The larvae grew slowly through the autumn and moulted several times, towards the end of October they went into hibernation. Each larva settled upside-down on the underside of a piece of bark or other object, and most had spun extensive silk pads to settle on. At this stage the larvae were about 7mm long (Figure 2) and if disturbed would

*Fourpenny Cottage, Dungates Lane, Buckland, Surrey, RH3 7BD.



drop off and curl up in a manner typical of many arctiid larvae. As might be expected I experienced the greatest mortality during the winter with seven deaths occurring during March. As far as I could judge about half the larvae died of fungal infection and the remainder 'dried up' with no trace of fungus, only three larvae survived to the spring.

The larvae did not become active again until late April when they resumed feeding on the alga, little progress was made however until the beginning of June when they started feeding in earnest and a rapid increase in size resulted. (Figure 1) The larvae were observed to feed only at night but not at all in a regular manner. When examined at all hours of darkness usually only one larva was feeding and the other two would be at rest.

In the final moult the larvae change colour quite dramatically from a mid brownish grey to nearly black. The pattern and ornamentation of all larvae are similar, only the colour changes. When fully grown the larva is 20 mm long and narrow with a slight anterior taper (Figure 3). The ground colour is now dark velvety grey, almost black. On the dorsal third of each segment is an irregular grey patch picked out with a lighter grey perimeter and there is also a round lateral spot of the same colour. The eight verrucae occur on these patches (six dorso-laterally and one on each lateral spot) and give rise to star-shaped clusters of shortish black hairs. These hairs are fairly sparse and vary in length up to about half the width of the body. There is a clear dorsal line which is thin and black, it is usually entire and bulges out to form a distinct patch on segments two and three. The underside is pale with no markings. The head is dark brown and glossy, there is one black verruca bearing short hairs low down on the side of each eye bulge. The head is larger than the first segment and the larva often sits in a characteristic attitude flattened onto the substrate with the top of the head tilted back so that the mandibles are thrust forward and easily visible. All the legs are a mid grey colour.

The pupa is enclosed in a thin greyish cocoon with a distinct inner lining. The larval skin remains attached to the pupa which is light chestnut brown, distinctly darker on the thorax and between the abdominal segments. The pupa is shiny and 13 mm long. This stage lasted for sixteen days and the first moth, a female, emerged

LEGEND TO FIGURES (OPPOSITE)

Pelusia obtusa (Herrich-Schäffer). Fig. 1 larva about $\frac{2}{3}$ grown and shed skin. Fig. 2 larva $\frac{1}{3}$ grown just before hibernation. Fig. 3 larva final instar and pabulum growing on dead bark. Fig. 4 imagines, male on the left. All specimens bred ex imago, Norfolk Broads. Photographs C. Hart. Scale (approx.) Fig. 1, x 6; Fig. 2, x 7.5; Fig. 3, x 3.5; Fig. 4, x 1.5.

on the 10th July 1984, a very early date which was probably due to the early stages being kept indoors for the previous two months. In an attempt to obtain a pairing the moth was kept cool but it died after ten days when the second surviving pupa produced a perfect male.

When these two bred specimens were set and compared it was noticed that there was a distinct difference in wing shape between the sexes. The male has a rather broad wing, both the costa and termen are strongly curved, and this gives the apex a blunt, rounded appearance. By contrast the female wing is much narrower, the costa is straighter and the apex has a distinctly square look. The exact shape of male moths is variable but all give the impression of a broad, stubby wing with a blunt apex. By comparison the wing colour is remarkably constant in each sex. The female specimens I have are slightly paler than the males and the spots are less distinct but it is difficult to be certain with only two female specimens to hand (Figure 4). Looking at specimens illustrated in the past it would appear that Fletcher, (1963) illustrates a male and so also does Skinner, (1984). Heath and Emmet, (1979) show a male, and although the abdomen is clearly correct the narrow wings and angled apex are much more like that of a female than the photographs referred to in the first two books.

Acknowledgements

I would like to record my thanks to Bernard Skinner for his help and advice, to Dr. David Carter of the British Museum (Natural History) for help in identifying the pabulum, and also to The Entomological Club whose generous grant made possible the colour plate.

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BUTTERFLIES AND BURNET MOTHS FROM
MILOS ISLAND, GREECE, END MAY 1984

By JOHN G. COUTSIS*

Milos, an island of volcanic origin, is situated in the Aegean Sea, at a latitude of approximately 36 degrees north and is the westernmost of the Cyclades islands. It has an area of about 161 square kilometres and its highest peak reaches an altitude of 772 metres. The island's vegetation consists mainly of garigue, which tends towards maquis in certain restricted areas. Cultivations are carried out mostly in wind-protected valleys.

The main purpose of my visit to this island was to investigate the possible existence there of *Pyrgus melotis* Duponchel 1832, which was described from specimens that were reputedly collected on Milos; a fact that has been doubted by most subsequent writers. Despite thorough collecting at all altitudes and in most of the island's accessible localities, I found no evidence of the existence of *melotis*. It is hoped to resume the search at the end of April and beginning of May, 1985, in order to check upon the possibility of its being on the wing earlier in the year.

In the course of my search for *melotis*, the following other species were recorded:

Papilionidae

Papilio machaon Linnaeus. A single larva observed feeding on parsnip in the town of Langadha.

Iphiclides podalirius Linnaeus. Two specimens observed at Plakota, in the vicinity of orchard trees.

Pieridae

Pieris brassicae Linnaeus. A few recorded in Langadha as adults and a great more as pupae.

Pontia daplidice Linnaeus. A small number recorded from Paraporos.

Euchloe ausonia Hübner. Quite common and generally distributed in fields and waste places. All specimens of the so called 2nd brood.

Colias crocea Fourcroy. Generally distributed and rather numerous.

Gonepteryx cleopatra Linnaeus. In fair numbers in Rivari, Plakota, Mamas and Mikro Vouno. Four females belonging to the whitish upperside morph and one tending toward the yellowish upperside morph.

*4 Glykonos Street, Athens 10675, Greece.

Satyridae

Hipparchia aristaeus Bonelli. Identity confirmed by the genitalia. Generally distributed and not uncommon. Specimens relatively large and brightly coloured.

Maniola jurtina Linnaeus. Generally distributed and common. Identity confirmed by genitalia. Males, quite often, with traces of orange-brown patches on FW upperside; females profusely shot with orange-brown suffusion on all wings upperside, somewhat reminiscent of subspecies *hispulla* Esper. This character is also shared by populations on Siphnos and Paros islands.

Lasiommata megera Linnaeus. A single female captured in Rivari.

Nymphalidae

Vanessa cardui Linnaeus. Generally distributed and common.

Vanessa atalanta Linnaeus. A few observed in Parasporos.

Lycaenidae

Callophrys rubi Linnaeus. A single male captured at about 600 metres altitude on Mt. Mikro Vouno.

Lycaena phlaeas Linnaeus. Quite common on Mt. Mikro Vouno.

Glaucopsyche alexis Rottemburg. A few males and females still on the wing at places with bushes of *Calicotome villosa* Poiret, presumably one of its larval foodplants. Recorded from Mikro Vouno, Rivari and Aghia Marina. The Milos population appears to be superficially similar to that of the islands of Paros and Siphnos. Females entirely black-brown on upperside and lacking blue basal dusting.

Pseudophilotes vicrama Moore. A few recorded from Aghia Marina, Mamas, Rivari, Plakota and Mikro Vouno.

Hesperiidae

Thymelicus acteon Rottemburg. Quite common. Recorded from Rivari, Aghia Marina, Mamas, Plakota and Mikro Vouno. Appears similar to nominate subspecies.

Zygaenidae

Zygaena punctum Ochsenheimer. In fair numbers in Parasporos and Aghia Marina.

Zygaena carniolica Scopoli. A thriving colony in Aghia Marina and occasional specimens in Parasporos. White rings surrounding red spots of FW upperside either absent or reduced. Abdominal red band in males either absent, or faint and narrow.

The Spring butterfly fauna of Milos appears to be quite similar to that of other islands in this area, such as Paros and Siphnos. It is characterized by the paucity of its species and by the lack of definable endemic subspecies. The poor vegetation of the island, as well as its small land mass and adverse weather conditions, no doubt play an important part on the island's restricted faunal composition.

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LARGE TORTOISESHELL, *NYMPHALIS POLYCHLOROS* (LINNAEUS) IN 1985 — It may be worth placing on record the recent observation by my friend Nick Mallet of a single female large tortoiseshell butterfly at a bramble flower in Wanstead Park, South Essex, [London], on 14th July 1985.

The origin of this particular insect is open to question. Certainly I have seen no others here in the last ten years which rules out a remnant breeding colony! One is left therefore with two choices: either a genuine migrant or an escape/introduction. Contact with the local butterfly breeding fraternity seems to rule out the latter choice, (although one can never be one hundred percent certain). COLIN W. PLANT, Passmore Edwards Museum, Romford Road, Stratford, London, E15 4LZ.

EREBIA EURYALE ESP. AND THE CAMERA. — The reaction of Lepidoptera to particular sounds does not appear to be often described. I had a striking example in the Swiss Alps on July 28 1985, while photographing in sunshine an assembly of about twenty *E. euryale*, all males, which appeared to be absorbing some mineral substance from a dried up puddle in a rough road. Human conversation nearby did not seem to upset them, and I was able to approach cautiously to within about six feet of them without causing disturbance. But the effect of the click when my Minolta camera was operated was dramatic: the butterflies without exception rose simultaneously into the air and flew around locally. This was repeated later under the same stimulus by another assembly a few yards away. After about fifteen minutes, however, both had reformed in similar numbers. — R. F. BRETHERTON, Folly Hill, Birtley Green, Bramley, Guildford, Surrey GU5 0LE.

A NEW SPECIES OF *MEGASELIA* RONDANI
(DIPTERA:PHORIDAE) FROM
NORTHERN BRITAIN

By R. H. L. DISNEY*

Megaselia eccoptomera Schmitz is readily distinguished from related species by the excavation of the basal quarter of the ventral margin of the hind femur and the comb of spines situated at the end of the concave length of this margin (Fig. 1). I have now found that I have been mixing up a second species with *M. eccoptomera*. This second species possesses a similarly modified hind femur (Fig. 2), but differs in details of the male hypopygium and other features. It has proved to be new to science and is, therefore, described below.

Megaselia gartensis sp.n.

♂ Frons broader than high and dark. Upper supra-antennals shorter and much thinner than pre-ocellar bristles. Lower supra-antennals shorter and much thinner than uppers. Antials slightly below upper supra-antennals and antero-laterals, and clearly closer to latter. Third antennal segment and arista dark. Palps brownish and with 5-6 stout bristles. Labella somewhat expanded, densely spinose below and with a dark band above each side.

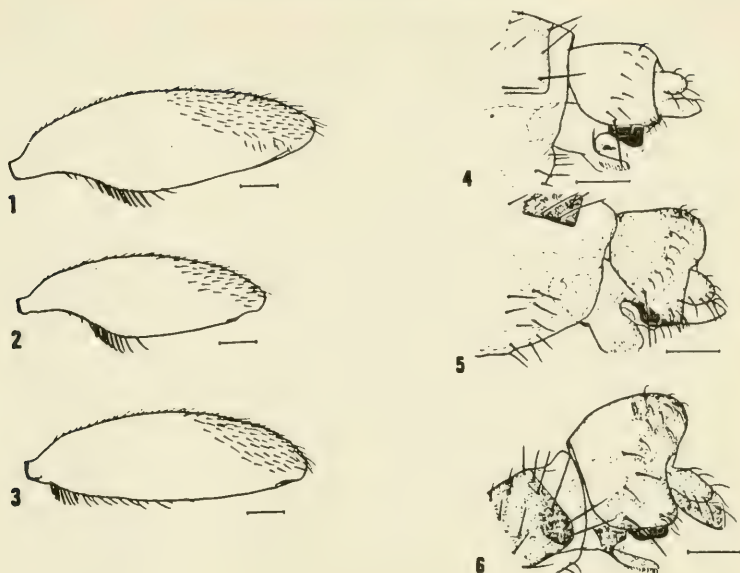
Thorax entirely dark. Anterior scutellars reduced to hairs no larger than those on humeri. Three bristles on notopleuron. Mesopleuron with 3-10 hairs (mean = 6).

Abdomen with dark tergites and brownish venter. The latter with conspicuous hairs on segments 3-6. Hypopygium entirely dark and as in Fig. 4.

Legs entirely dark, apart from paler fore tibia and metatarsus. Ratios of lengths of fore-tarsus segments 2.5:1:0.7:0.7:1, the last segment being wider than the preceeding four segments. Hind femur as Fig. 2. Hind tibia with dorsal hair palisade strongly deflected onto anterior face in distal quarter.

Wing with costal index of 0.46 – 0.51. Costal ratios 2.8 – 3.5: 1.9 – 2.4 : 1. Costal cilia 0.12 – 0.15 mm. Wing length 1.4 – 1.9 (mean 1.7) mm. All veins brownish and membrane greyish. Sc clearly ends well before R1. Axillary ridge with 3-5 (2 with 3, 5 with 4, 6 with 5) bristles. Vein 3 with a hair at base in all except one specimen (n = 13). Haltere with stem and knob dark. ♀ not known apart from a gynandromorph specimen. This has a somewhat distorted male hypopygium but dissection revealed ovaries not testes.

*Field Studies Council Research Fellow, Department of Zoology, University of Cambridge, CB2 3EJ.



Figures. 1-3. Posterior face of hind femur: 1. *Megaselia eccoptomera* Schmitz. 2. *Megaselia gartensis* sp. n. 3. *Megaselia coccyx* Schmitz. Scale lines = 0.1mm.

Figs 4-6. Male hypopygium viewed from left side: 4. *Megaselia gartensis*. 5. *Megaselia eccoptomera*. 6. *Megaselia coccyx*. Scale lines = 0.1mm.

Holotype ♂, Loch Garten, Inverness (Grid ref. 28/9818), May 1981, J. A. Owen. Deposited in collection of author.

Paratypes. 2 ♂ same data as holotype. 10 ♂ 1 ♀ Malham Tarn Estate, North Yorkshire (Grid refs. 34/889672 and 34/893672) May and June 1984, R. H. L. Disney. All deposited in collection of author.

Affinities. In the keys of Schmitz and Beyer (1965) *M. gartensis* runs to *M. eccoptomera*. The latter is a slightly larger species. In British specimens the wing length exceeds 2mm. This size difference is reflected in numerous other measurements, such as the length of the hind femur (cf Figs 1 and 2). However the easiest means of separating the two species is by the form of the epandrium. In *M. eccoptomera* the dorsal-posterior region projects above the anal tube (Fig. 5), unlike the situation in *M. gartensis* (Fig. 4). *M. coccyx* Schmitz has a similar, but more marked, modification of the epandrium (Fig. 6). However it has no excavation of the base of the hind femur (Fig. 3). *M. coccyx* has only recently been added to the British List (Disney 1984). In *M. sordida* (Zetterstedt) the epandrium is also somewhat developed postero-dorsally but less than in

M. coccyx and *M. eccoptomera*. Its hind femur is similar to that of *M. coccyx*.

Acknowledgements

I am grateful to Dr. A. G. Irwin who gave me the Phoridae collected by Dr. J. A. Owen.

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MIGRATING CYNTHIA CARDUI IN TUSCANY. — My wife and I arrived at the Villa San Girolamo, run by La Piccola Compagna di Santa Maria, at Fiesole, on April 12th, 1985. The Villa has about 15 acres of olive trees, with ground rich in wild flowers, and we were distressed to see the enormous damage suffered by the olive trees in the unprecedented cold spell in January of this year. On April 13th I went into the olive groves to see what butterflies were to be observed, and it was obvious at once that a very large migration of painted ladies was going on. The groves were swarming with them. They appeared to be being held back by northerly winds, as soon as these dropped on April 18th they thinned out rapidly.

Otherwise the most interesting butterflies seen were the two swallowtails, *P. machaon* (one only) and *I. podalirius*. The latter (several seen) had the habit of flying back and forth over the same piece of ground in a fearless and leisurely manner, making observation easy. J. L. CAMPBELL, Isle of Canna.

DEILEPTENIA RIBEATA CLERCK (SATIN BEAUTY) AT BLAIR-GOWRIE, PERTSHIRE — Two specimens of this moth were caught in the Rothamsted Insect Survey light trap at Kindrogan Field Centre, Blairgowrie, Perthshire (Site No. 48, O.S. ref. No. 055 630) during 1984 (8/9 and 10/11 July). This species is very locally distributed in Scotland, having only been previously recorded from Ayrshire, Kirkcudbrightshire, Stirlingshire, Dumbartonshire (Skinner, pers. comm.) and Peeblesshire (Riley, *Ent. Rec.* **97**: 111). This record therefore constitutes an extension of its known range.

Thanks are extended to Bernard Skinner for his advice on this species and to our trap operator at Kindrogan Field Centre, Miss Lynette Borradaile. — ADRIAN M. RILEY Rothamsted Insect Survey, Entomology Department, Rothamsted Experimental Station, Harpenden, Herts.

MICROLEPIDOPTERA —
A REVIEW OF THE YEAR 1984

Compiled by DAVID J. L. AGASSIZ*

Once again in 1984 there was a long cold spring, followed by good weather in July and August. On balance it was not an exceptional year for conditions, but it was certainly so for the number of exciting discoveries. Seldom in recent years have there been so many additions to the British list; it is always hard to decide how many, for some of those listed were found previously but only determined or published in 1984, others yet have still to be identified and announced.

Tischeria heinemanni has been discovered in Kent by N. F. Heal where it can be presumed to be resident, we await publication and further details. 1984 was a great year for Gelechiidae discoveries: *Monochroa niphognatha* was found in East Kent by J. M. Chalmers-Hunt and N. F. Heal; R. J. Heckford continuing his studies of *Genista pilosa* in Cornwall bred *Syncopacma suecicella*; the new *Scrobipalpula* sp. reported last year by E. C. Pelham-Clinton has now been bred and the identity confirmed as *tussilaginis*. Among species taken a few years ago but only recently determined are *Athrips rancidella* which J. M. Chalmers-Hunt has been taking in his garden at West Wickham and *Scrobipalpa klimeschi* which D. J. L. Agassiz took at Chippenham in 1972-3.

The name *aestuariella* has now been given by Dr. J. D. Bradley to the new *Coleophora* species from the Essex and Kent saltmarshes. Among the Tortricidae B. R. Baker has found *Cydia illutana* in Berkshire, like other conifer feeders which have been added to our fauna in recent years this may well become commoner and more widespread. A specimen of *Archips argyrospila* was taken in Derbyshire by M. J. Sterling, who with his father also found a mystery *Clepsis* species in Lincolnshire which could be a newcomer to our shores. R. J. Heckford obtained an imported species in *Adoxophyes privatana* which has not previously been recorded from these Islands. The keen eye of Mr. Pelham-Clinton has added *Nomophila nearctica* to our list on account of a specimen in the collection of the late C. W. Mackworth-Praed.

Other rare or long lost species continue to be found in surprising places. *Paraclepsis cinctana* occurring locally in Tiree is a remarkable discovery by Dr. M. W. Harper so far from its Kentish haunts. In a similar category is *Acrolepiopsis betulella* which was last seen over 100 years ago in Co. Durham, and has now been found

*The Rectory, 10 High View Avenue, Grays, Essex RM17 6RU.

by Dr. M. Young in West Ross. *Bankesia douglasii* (Stainton) (= *conspurcatella* Stt.) had also disappeared from its old localities to be found again in Kent and Guernsey. One wonders whether the reappearance of a species in two or three localities (there is a 1985 record from Yorkshire) after a long absence has any explanation; if the insect had winged females we would more readily consider migration.

Rhigognostis incarnatella has always been an elusive species in its Scottish localities; having found it in the Isle of Man in 1983 K. G. M. Bond has now produced a specimen for Ireland. The known range of *Stenoptilia saxifragae* is also extending with records from Yorkshire and Scotland to add to its Irish and Derbyshire populations. *Pulicalvaria piceaella* from Hampshire is evidence of the continued presence of this conifer-feeding species, even if it remains scarce.

The publication of distribution maps of species gives a new meaning to vice-county records. A number of records given were made by authors compiling maps for *The Moths and Butterflies of Great Britain and Ireland* and now that Volumes 1 and 2 are published there is perhaps more stimulus to entomologists to submit records for vice-counties where species have not hitherto been recorded. In addition to these there have been other important publications whose contents are not reproduced in this review: "Isle of Man: Supplementary Records" appeared in the *Entomologist's Record* 97: supplement (1) — (16). Migration records including eight species of microlepidoptera were published in *Ent. Rec.* 96: 149. Although it does not give any details of distribution within the U.K., Volume 13 of *Fauna Entomologica Scandinavica* deals with the Scythrididae, and it is worth noting that of the twelve British species three have been added to our list in recent years.

Once again I am most grateful to all those who have submitted records, without whose co-operation this review would be impossible. These are identified by their initials: H. E. Beaumont, K. P. Bland, K. G. M. Bond, J. M. Chalmers-Hunt, M. F. V. Corley, A. M. Emmet, A. P. Foster, M. W. Harper, N. F. Heal, R. J. Heckford, J. R. Langmaid, R. I. Lorimer, E. C. Pelham-Clinton, A. N. B. Simpson, F. H. N. Smith, P. A. Sokoloff, D. H., M. J. & P. H. Sterling.

Those records included in brackets were given in previous years, they are repeated simply for the sake of quoting the references. All records have been accepted uncritically, most constitute new vice-county records. Watsonian vice-counties are used and only their numbers are given for the sake of brevity.

A longer duplicated list of all records submitted is available from the compiler — s.a.e. would be appreciated.

Systematic List

ERIOCRANIIDAE

- Eriocrania chrysolepidella* (Zell.) – nr. Bovey Tracey (3) 28.iv.1984 – RJH.

NEPTICULIDAE

- Etainia decentella* (H.S.) – Plympton (3) 20.vi.84 & 25.viii.84 – RJH; Melton Wood (63 25.vi.84 – HEB.
Ectoedemia argyropeza (Zell.) – Kilbarry (H3) Tenanted mines 12.xi.84 – KGMB, New to Ireland.
E. albifasciella (Hein.) – Ballater (92) 25.vi.84 – JRL.
E. atrifrontella (Stt.) – Worcs. (37) – ANBS; Maulden Wood (30), Haugh Wood (36) mines – AME, most northerly & westerly records.
Fomoria weaveri (Stt.) – Warwicks (38) – ANBS.
Stigmella serrella (Stt.) – Glamorgan (41) – ANBS; Kynance Cove (1) – AME.
S. speciosa (Frey) – Bedford Purlieu (32), Didbrook (33), Monmouth (35) – AME, New to Wales.
S. assimilella (Sell.) – Hallyards Wood (83) vacated mines 27.x.84 – KPB *Ent. Rec.* 98: (in press).
S. pomella (Vaugh.) – Worcs. (37), Warwicks (38) – ANBS.
S. suberivora (Stt.) – Great Thurlow (26) – AME.
S. roborella (Johan.) – Ballater (92) 23.vi.84 – ECP-C & JRL, most northerly record.
S. svenssoni (Johan.) – Haugh Wood (36) – AME; Co. Durham (66), South Northumberland (67) – T. C. Dunn per AME.
S. samiatella (Zell.) – East Sussex (14) – ECP-C *Ent. Rec.* 96: 140.
S. basiguttella (Hein.) – Dinnet Oakwood, Ballater (92) 23.vi.84 – JRL & KPB; Chudleigh Knighton Heath (3) vacated mines 16.ix.84 – RJH.
S. tiliae (Frey) – Buckfastleigh (3) – AME.

TISCHERIIDAE

- Tischeria heinemanni* (Wocke) – Herne Bay (15) 11.viii.84, Thornden Wood, Whitstable (15) 18.viii.84 – NFH **New to Britain.**

INCURVARIIDAE

- Phylloporia bistrigella* (Haw.) – Doogary (H36) 10.vi.84 – KGMB.
Lampronia capitella (Clerck) – Ballater (92) 24.vi.84 – MWH & MR. Young.
L. fuscata (Tengst.) – Burfield Common (22) – AME.
Nematopogon metaxella (Hb.) – Tullamore (H18) 21.vi.84 – KGMB.

HELIOZELIDAE

Heliozela resplendella (Stt.) — Howth (H21) bred, Glenveagh Nat. Park (H35) 11.viii.84 — KGMB.

PSYCHIDAE

Bankesia douglasii (Stt.) = *conspurcatella* sensu auctt. — Sittingbourne (15) 6 — 19.iii.84 — NFH; Guernsey (113) 1.iv.84 — T. N. D. Peet.

TINEIDAE

Infurcitinea argentimaculella (Stt.) — Canterbury (15) — ESB; Cirencester (33) — RJH.

N. ruricolella (Stt.) — Whitstable (15) bred 27.vi.84 — ESB; Rainham (18) — G. S. Robinson, *Ent. Gaz.* 36: 22.

Triaxomera fulvimitrella (Sodof.) — Whitstable (15) bred 16 — 30.vi.84 — ESB.

Triaxomasia caprimulgella (Stt.) — East Blean Wood (15) 19.vii.81 — ESB, *Ent. Rec.* 96: 184.

Monopis laevigella (D. & S.) — Gleann Tuath, Islay (102) 18.v.84 — APF.

M. weaverella (Scott.) — Edwinstowe (56) 8.vi.83 — MJS.

Niditinea fuscella (Linn.) — Tullamore (H18) dead adult xii.84 — KGMB.

N. piercella (Bent.) — Worcs. (37) — ANBS; Fingringhoe (19), Adventurers Fen (29) — R. Fairclough.

Tinea columbariella Wocke — Sittingbourne (15) bred 1 — 2.v.84 — NFH.

OCHSENHEIMERIIDAE

Ochsenheimeria urella F.v R. — Glencree (H20) 21.viii.84, Doogary (H36) 10.viii.84 — KGMB.

O. mediopectinellus Stt. — Perrancombe (1) 18.viii.84 — FHNS.

LYONETIIDAE

Leucoptera lotella (Stt.) — nr. Stover Park (3) 20.vi. & 25.viii.84 — RJH.

L. malifoliella Costa — Edwinstowe (56) bred from bird's nest 22.iii.84 — MJS.

Bucculatrix nigricomella Zell. — Kynance Cove, Cockerack (1), Stradishall (26), Bedford Purlieu (32) — AME.

B. thoracella (Thunb.) — Buckfastleigh (3), Cambridge (29) — AME; London SW1 (21) 2.viii.84 — APF. Status discussed — AME, *Ent. Rec.* 96: 130f.

B. crataegi Zell. — Monmouth (35) — AME.

B. demaryella (Dup.) — Whittlewood Forest (32) — AME.

GRACILLARIIDAE

- Caloptilia betulicola* (Her.) – Glenveagh Nat. Park (H35) 11.viii.84 – KGMB.
- C. robustella* Jäckh – Edwinstowe (56) 28.vi.83 – MJS; Ballater (92) 23.vi.84 – ECP-C, most northerly record.
- Calybites phasianipennella* (Hb.) – Edwinstowe, Gleadthorpe (56) – MJS.
- C. auroguttella* (Steph.) – Monmouth (35) – AME.
- Parornix betulae* (Stt.) – Bissoe (1) – AME.
- P. devoniella* (Stt.) – Clorhane (H18) 14.vi.84 – KGMB.
- P. scoticella* (Stt.) – Feeding habits – AME, *Ent. Rec.* 96: 133f.
- P. finitimella* (Zell.) – Helston (1), Whittlewood Forest (32), Didbrook (33) – AME.
- P. torquillella* (Zell.) – Clorhane (H18) 14.vi.84 – KGMB.
- Phyllonorycter roboris* (Zell.) – Clough Wood (57) mines 12.xi.83 – MJS.
- P. sorbi* (Frey) – Glenveagh Nat. Park (H35) bred from *Sorbus aucuparia* 11.viii.84 – KGMB.
- P. junoniella* (Zell.) – Warwicks (38) – ANBS
- P. spinicolella* (Zell.) – Maulden Wood (30) – AME; Dunboyne (H22) bred 10.iv.84 – KGMB.
- P. corylifoliella* f. *betulae* Zell. – East Ham (18) – C. W. Plant, *Ent. Rec.* 96: 179.
- P. dubitella* (H.S.) – Matlock (57) bred – MJS.
- P. spinolella* (Dup.) – Maulden Wood (30) – AME.
- P. cavella* (Zell.) – Barton Mills (26) – AME.
- (*P. staintoniella* (Nic.) – Life history & description – RJH, *Ent. Gaz.* 35: 73ff).
- P. quinqueguttella* (Stt.) – St. Keverne (1) – AME; Woodbury Common (3) bred, Braunton Burrows (4) 22.vi.84 – RJH.
- P. insignitella* (Zell.) – Herne Bay (15) bred – NFH.

PHYLLOCNISTIDAE

- Phyllocnistis xenia* Her. – nr. Canterbury (15) – NFH, *Ent. Rec.* 96: 98.

GLYPHIPTERIGIDAE

- Glyphipterix schoenicolella* Boyd – Lough Nacung (H35) two 12.viii.84, Pollardstown Fen (H19) two 15.viii.84 – KGMB.
- G. equitella* (Scop.) – Dovedale (38) 16.viii.84 – MJS.
- G. haworthana* (Steph.) – Warwicks (38) – ANBS.

DOUGLASIIDAE

- Tinagma ocnorostomella* (Stt.) – Saltfleetby-Theddlethorpe NNR (54) f.c. 1.vii.84 – HEB, most northerly record.

YPONOMEUTIDAE

Argyresthia glabratella (Zell.) — Ordie (92) 23.vi.84 — JRL.

A. dilectella (Zell.) — Ilkeston (57) 25.vii.84 — MJS.

Kessleria saxifragae (Stt.) — Fionchra, Rhum (104) 8.vii.84 — MFVC.

Zelleria hepariella Stt. — Saffron Walden (18) — AME.

Pseudoswammerdamia combinella (Hb.) — Denaby Ings (63) 31.v.84 — HEB.

Cedestis gysseleniella (Zell.) — Greno Wood (63) 6.viii.84 — HEB.

Onerostoma friesei Svensson — Hayburn Wyke (62) 19.v.84 — HEB;
Shapwick (6) reared 13.xi.84 from 1. 13.ix.84, 3rd brood — AME.

Scythropia crataegella (Linn.) — Dovedale (38) 7.vii.84, Hilton (57) 4.vi.84 — MJS.

Ypsolopha mucronella (Scop.) — Axminster (3) v.vi.84 — ECP-C.

Plutella porrectella (Linn.) — Orpinton (16) 1. on *Hesperis* half-grown ii.84, suggesting overwintering as a larva — PAS.

Rhigognostis incarnatella (Steud.) — Pallaskenry (H8) 14.iv. — Rothamsted trap per KGMB.

Acrolepiopsis betulella (Curt.) — Inverpollly NNR (105) v.84 — M. R. Young, new to Scotland. *Ent. Gaz.* (in press).

EPERMENIIDAE

Cataplectica profugella (Stt.) — Grays (18) 27.vii.84 — DJLA.

Epermenia insecurella (Stt.) — Royston (20) 23.vii.84 — ECP-C & AME.

COLEOPHORIDAE

Coleophora lutipennella (Zell.) — West Haigh Wood, reared vii.84, Denaby Ings (63) 21.vii.84 — HEB.

C. coracipennella (Hb.) — Woodthorpe (54) case on ornamental *Prunus* sp. — HEB.

C. milvipennis Zell. — Dinnet (92) 25.vi.84 — JRL, most northerly record; Flanders Moss NR (87) 11.vi.81, Craighall Gorge SSSI Blairgowrie (89) a case 14.vii.81 — KPB, *Ent. Rec.* 98: (in press).

C. limosipennella (Dup.) — Leckford (12) three cases on *Ulmus* 9.viii.84 — DHS & JRL.

C. hydrolapathella Her. — Catfield (27) — AME.

C. fuscocuprella H.-S. — Winchester, four cases, Emer Bog (11) eight cases 4.xi.84 — DHS & JRL.

C. juncicolella (Stt.) — Budby (57) 3.v.84 — MJS.

C. potentillae Elisha — Chudleigh Knighton Heath (3) cases x.84, Woodbury Common (3) cases 28.x.84 — RJH.

C. trifolii (Curt.) — Braunton Burrows (4) 22.vii.84 — RJH.

C. conyzae Zell. — Gwithian (1) cases on *Inula conyza* 27.v.84 — RJH.

C. litharyrinella Zell. Capperleuch Hazelwood (78) cases on *Stellaria holostea* 10.iv.84 — KPB.

- C. lixella* Zell. – Pettycur (85) cases 1.iv.84 – KPB, *Ent. Rec.* **98**: (in press).
- (*C. ochrea* (Haw.) – Kent (15) – NFH, *Ent. Rec.* **96**: 132f).
- C. pyrrhulipennella* Zell. – Badby (57) 3.v.84 – MJS.
- (*C. serpylletonum* Her. – Kent (15) – NFH, *Ent. Rec.* **96**: 107).
- C. genistae* Stt. – Muir of Dinnet (92) 24.vi.84 – KPB, *Ent. Rec.* **98**: (in press), Mount Hermon (1) cases 7.vi.84 – RJH.
- C. inulae* Wocke – Herne Bay (15) 2.vii.83 – ESB.
- C. gardesanella* Toll – larva on *Artemisia vulgaris* – JRL, *Ent. Gaz.* **36**: 46.
- C. argentula* (Steph.) – Pettycur (85) viii. 83, Longniddy & Gullane (88), 1.ix.83 – KPB, *Ent. Rec.* **98**: (in press).
- C. virgaureae* Stt. – Fealer Gorge (89) 20.ix.83, Beinn Lawers NNR (88) 1.ix.84, Pettycur (85) 30.x.84 – KPB, *Ent. Rec.* **98**: (in press); Laytown (H22) 22.vii.84 – KGMB.
- C. adspersella* Ben. – Mornington (H22) 22.vii.84 – KGMB.
- C. versurella* Zell. – Misson (57) 8.viii.84 – MJS.
- C. deviella* Zell. – Peldon (19) bred 1 – 31.vii.84, Shellness (15) bred – NFH, *Ent. Rec.* **96**: 164; Southsea (11) 26 & 31.viii.84 – JRL, *Ent. Gaz.* **36**: 46.
- (*C. aestuariella* Bradley – St. Osyth (19) – AME; Harty (15), Peldon (19) bred from *Suaeda maritima* – NFH, *Ent. Gaz.* **35**: 137-140).
- C. tamesis* Waters – Great Bendysh Wood (19) 8.vii.83 – AME; Lechlade (37) 5.viii.80 – MFVC.
- C. alticolella* Zell. – larva on seeds of *Luzula campestris* – M. G. M. Randall, *Ent. Gaz.* **35**: 225f.
- C. maritimella* Newm. – St. Osyth (19) – AME.
- C. adjunctella* Hodgk. – Bull Island (H21) 6.vii.84 – KGMB.
- C. caespititiella* Zell. – Stepside (H21) 16.vi.84 – KGMB.
- C. salicorniae* Wocke – Gibraltar Point (54) 28.vii, 11.viii.84 – MJS.
- C. clypeiferella* Hofm. – Whitstable (15) 28.vii.84 – ESB.

ELACHISTIDAE

- Perittia obscurepunctella* (Stt.) – Blean (15) 1.v.77 – ESB; Chyverton (1) 24.v.84 – P. N. Siddons per FHNS.
- Elachista biatomella* Stt. – Braunton Burrows (4) 26.vii.84 – RJH.
- E. alpinella* Stt. – Orkney (111) – RIL.
- Biselachista trapeziella* (Stt.) – Arniston Mains (83) two bred: from *Luzula sylvatica* Maggie Bowies Glen (83) from *Luzula pilosa* – KPB, New to Scotland, *Ent. Rec.* **98**: (in press).
- B. utonella* (Frey) – Bull Island (H21) 6.vii.84 – KGMB.
- Cosmiotes stabilella* (Stt.) – Worcs. (37) bred from *Brachypodium pinnatum* – ANBS.

OECOPHORIDAE

- Batia lunaris* (Haw.) – Braunton Burrows (4) 25.vii.84 – RJH.

Esperia oliviella (Fabr.) — Blean (15) 29.vii.84 — ESB.

Amphisbatis incongruella (Stt.) — Kynance Cove (1) — AME, ECP-C etc.

Diurnea fagella (D. & S.) — Unusual pupation site — G. G. Irwin, *Ent. Rec.* 96: 287f.

Depressaria ultimella Stt. — nr. Perranporth (1) pupae in stems of *Apium nodiflorum* — RJH & FHNS.

D. pimpinellae Zell. — Threshfield (64) bred from *Pimpinella saxifraga* — JRL.

D. pulcherrimella Stt. — Thorne Moor (14) 1. on *Pimpinella saxifraga* — RJH.

D. weirella Stt. — Dovedale (38) 14.v.83 — MJS.

D. silesiaca Hein. — 1. on *Tanacetum vulgare* — JRL, *Ent. Gaz.* 36: 54.

Agonopterix purpurea (Haw.) — Rathconnellwood (H19) 17.viii.84 — KGMB.

A. propinquella (Treits.) — Edwinstowe (56) — MJS.

(*A. kuznetzovi* Lvov. — Mt. Hermon & Mullion Cove (1) — RJH; Description & life history — ECP-C & JRL, *Ent. Gaz.* 35: 67-72).

A. ulicetella (Stt.) — nr. Lizard (1) 1. on *Genista pilosa* — RJH.

A. carduella (Hb.) — Stockbury (15) 1. on *Centaurea nigra* — NFH.

A. conterminella (Zell.) — Braunton Burrows (4) 22.vii.84 — RJH.

A. astrantiae (Hein.) — Herefs. (36), Cranham Wood (33) — MWH.

A. yeatiana (Fabr.) — Mount Lothian Marsh (83) 26.viii.84 — KPb, *Ent. Rec.* 98: (in press).

A. capreolella (Zell.) — Clorhane (H18) 14.vi.84 — KGMB.

ETHMIIDAE

Ethmia bipunctella (Fabr.) — Dinton (8) 24.vi.84 — S. M. Palmer, *Ent. Rec.* 97: 128.

GELECHIIDAE

Metzneria aprilella (H.-S.) — Saffron Walden (19) 16.vii.84 — AME.

Eulamprotes wilkella (Linn.) — Gibraltar Point (54) 11.viii.84 — MJS.

Monochroa tetragonella (Stt.) — Gibraltar Point (54) 28.vii.84 — MJS.

M. conspersella (H.-S.) — Delting Hill (15) 23.vi.81 — NFH.

M. hornigi (Staud.) — Grays (18) 14.vii.84 — DJLA.

M. niphognatha Gozm. — Stodmarsh (15) 8.vii.84 — NFH & JMC-H, *Ent. Rec.* 97: 20-22 **New to Britain.**

M. suffusella (Doug.) — Matley Bog (11) 30.vii.84 — DHS & PHS.

M. elongella (Hein.) — Braunton Burrows (4) 26.vii.84 — RJH.

Chrysoesthia sexguttella (Thunb.) — Mornington (H22) 22.vii.84, Langness (71) 21.viii.84 — KGMB.

- Sitotroga cerealella* (Oliv.) — Herefs. Museum (36) 1. eating corn dollies! — MWH, *Ent. Rec.* **97**: 108.
- Parachronistis albiceps* (Zell.) — Edwinstowe (56) vii.83 — MJS.
- Pulicalvaria piceaella* (Kearf.) — Winchester (11) 10.vii.84, 9.vii.84 — DHS, *Ent. Rec.* **97**: 139.
- Athrips rancidella* (H.-S.) — West Wickham (16) **New to Britain** — JMC-H, *Ent. Rec.* **97**: 22-24.
- Teleiodes notatella* (Hb.) — Steeple Bumpstead (19). — AME.
- T. waggae* (Now.) — Clorhane (H18) 14.vi.84 — KGMB; Wye (15) viii.79 — ESB, *Ent. Rec.* **96**: 125.
- T. paripunctella* (Thunb.) — Edwinstowe (56) 24-30.vii.83 — MJS.
- Bryotropha basaltinella* (Zell.) — Grays (18) vi.83 & 84 — DJLA.
- B. similis* (Stt.) — Great Holland Pits (19) 22.vi.82, previous Essex record based on misidentification — AME.
- B. mundella* (Doug.) — Tregirls nr. Padstow (1) 20.vi.84 — FHNS.
- B. senectella* (Zell.) — Roundwood (H20) 14.vii.84, Mornington (H22) 22.vii.84 — KGMB; Whitstable (15) 26.viii.84 — ESB.
- Chionodes fumatella* (Doug.) — Saffron Walden, Wickham Bishops, Markshall Wood, Fingringhoe Wick (19) — AME.
- Lita solutella* (Zell.) — Aberdeenshire (92) — R. P. Knill-Jones.
- Neofriseria singula* (Staud.) — South Stifford (18), Enfield (21) — DJLA.
- Pexicopia malvella* (Hb.) — Canterbury (15) 1. on *Althea rosaea* — ESB.
- Scrobipalpa nitentella* (Fuchs) — Laytown (H22) 22.vii.84 — KGMB.
- S. klimeschi* Pov. — Chippenham Fen (29) 22.vi.72 & 6.vi.73 **New to Britain**, — DJLA, *Ent. Gaz.* Paper in preparation.
- Scobipalpula tussilaginis* (Frey) — East Devon (3) two bred 28, 30.v.84 from larvae on *Tussilaginis* **New to Britain** — ECPC, *Ent. Rec.* **96**: 252. Further paper in preparation.
- Caryocolum marmoreum* (Haw.) — Tregirls (1) 20.vi. & 16.viii.84 — FHNS.
- C. blandella* (Doug.) — Iron Tors (57) 1. on *Stellaria holostea* 12.v.84 — MJS.
- Reuttia subocellea* (Steph.) — Pitt Down (11) cases 29.xi.84 — DHS & PHS.
- Syncopacma larseniella* (Gozm.) — Blean (15) 4.viii.84 — ESB; Ventongimps Moor (1) bred — FHNS.
- S. vinella* (Banks) — Ditchling (14) 18.vi.84 from 1.19.v.84 — NFH.
- S. suecicella* (Wolff) — nr. Lizard (1) 1. on *Genista pilosa* 30.v.84, em. 23.vi. — 13.vii.84 **New to Britain** — RJH, Publication awaited.
- Acanthophila alacella* (Zell.) — Highcliffe (11) — E. H. Wild; Wye (15) viii.77 — ESB, *Ent. Rec.* **96**: 125.

Anacampsis temerella (L. & Z.) — Cornaigbeg, Isle of Coll (103) bred 27 — 31.vii.84 from 1. 25.vii.84 on *Salix repens*, New to Scotland — KPB, *Ent. Rec.* **98**: (in press).

A. blattariella (Hb.) — Edwinstowe (56) 18.vii.83 — MJS.

Telephila schmidtiiellus (Heyd.) — Grays (18) bred — DJLA.

Brachmia inornatella (Dougl.) — Stodmarsh (15) 8.vii.84 — NFH.

Oegoconia quadripuncta (Haw.) — Wickham Bishops (19) — AME.

O. caradjai P-G & C. — Braunton Burrows (4) 25.vii.84 — RJH.

MOMPHIDAE

Mompha conturbatella (Hb.) — Bullers Hill, Haldon Hill (3) ex 1.2 — 23.vii.84 — RJH.

M. lacteella (Steph.) — Duddenhoe End 5.vii.82, Elmdon (19) 8.viii.83 — AME; Halstead (19) Rothamsted Research Station per AME.

M. propinquella (Stt.) — Edwinstowe (56) 12.iii.84 — MJS.

M. divisella (H.-S.) — Perrancoombe (1) bred from *Epilobium montanum* 19 & 22.viii.84 — FHNS.

Cosmopterix orichalcea Stt. — Central Cornwall (2) 11.vi.84 — P. N. Siddons per FHNS.

C. lienigiella L. & Z. — Stodmarsh (15) 8.vii.84 — NFH.

Limnoecia phragmitella Stt. — Stover Park (3) 1. in *Typha* heads 29.iv.84 — RJH.

SCYTHRIDIDAE

Scythris fallacella (Schlåg.) — Grassington (64) 29.vii.84 — ECP-C. (*S. sinensis* (Feld. & Rog.) — APF, *Ent. Gaz.* **35**: 141-3).

COCHYLIDAE

Hysterosia sodaliana (Haw.) — Dovedale (38) 7.vii.84, Via Gellia (57) 1. 2.ix.84 — MJS.

Commophila aeneana (Hb.) — S. E. Notts. (56) vii.84 — MJS, *Ent. Rec.* **97**: 29.

Cochylidia implicitana (Wocke) — Wykeham Forest (62) viii.82 — HEB, *Ent. Rec.* **96**: 84.

Cochylis pallidana Zell. — nr. Lizard (1) 7.vi.84 — RJH.

TORTRICIDAE

Archips argyrospila (Walker) — Matlock (57) 29.iv.84 — MJS, **New to Britain**, *Ent. Rec.* **97**: 51.

Choristoneura diversana (Hb.) — Wychwood (23) 21.vi.84 — PHS.

Clepsis sp. — Gibraltar Point (54) bred 30.v.84 from 1. 2.v.84 — DHS & MJS; probably new to Britain, determination awaited.

Epiphyas postvittana (Walker) — Hove (14) — R. Craske; 1. on *Pinus muricata* — T. G. Winter, *Ent. Gaz.* **36**: 46. London S.W. (17) 26.vi.83. J. Burge per C. W. Plant, *Ent. Rec.*, **97**: 67.

- Adoxophyes privatana* (Walker) – ex 1. on imported orchids from Marks & Spencer – RJH.
- Paraclepsis cinctana* (D. & S.) – Tiree (103) – MWH, New to Scotland.
- Neosphaleroptera nubilana* (Hb.) – Lindrick Common (63) 23.vii.84 – HEB.
- Eana incanana* (Steph.) – Cann Woods, Plympton (3) 8.vi.84 – RJH.
- Spatalistis bifasciana* (Hb.) – Central Cornwall (2) 10.vii.84 – P. N. Siddons per FHNS.
- Celypha rufana* (Scop.) – Stodmarsh (15) 8.vii.84, Murston (15) 16.vii.84 – NFH.
- Olethreutes bifasciana* (Haw.) – Denaby Ings (63) 7.vii.84 – HEB.
- Endothenia pullana* (Haw.) – Blean (15) 1.viii.84 – ESB.
- Bactra furfurana* (Haw.) – Braunton Burrows (4) 25.vii.84 – RJH.
- Ancylis upupana* (Treits.) – Ashdown Forest (14) 9.vi.84 – NFH.
- Crociosema plebejana* (Zell.) – Oxfordshire (22) – MFVC, *Ent. Gaz.* 35: 94.
- Zeiraphera ratzeburgiana* (Ratz.) – Glencree (H21) 21.vii.84, Stepaside (H21) 15.viii.84 – KGMB.
- Epiblema turbidana* (Treits.) – Saffron Walden (19) 16.vii.84 – AME.
- Eucosma pupillana* (Clerck) – Edwinstowe (56) – MJS.
- Rhyacia buoliana* (D. & S.) – 1. on *Picea breweriana* in Surrey (17) – T. G. Winter, *Ent. Gaz.* 35: 82.
- Strophedra weirana* (Dougl.) – Herodsfoot (2) 25.vi.84 – FHNS.
- S. nitidana* (Fabr.) – Cumbria (69) – E. F. Hancock, *Ent. Rec.* 96: 185f.
- Pammene obscurana* (Steph.) – Loch Rannoch (88) 19.v.84 – KPB.
- P. fasciana* (Linn.) – Ballater (92) 27.vi.84 – ECP-C, most northerly record.
- P. germmana* (Hb.) – Friday Woods (19) 10.vi.84, Boustead Grove (19) 24.vi.84 – J. Young per AME.
- Cydia molesta* (Busck) – Kelstedge (57) bred from a peach 7.v.83 – B. Elliot per MJS.
- C. lunulana* (D. & S.) – Elland (63) 9.vi.84 – HEB.
- C. pactolana* (Zell.) – Botley Wood (11) 8.vi.84 – PHS.
- C. coniferana* (Ratz.) – Raven Point (H12) 26.vii.1984 – KGMB.
- C. illutana* (H.-S.) – Berks. Downs (22) 15.vi.84 – B. R. Baker. *Ent. Gaz.* 36: 97-101. **New to Britain.**

ALUCITIDAE

- Alucita hexadactyla* (Linn.) – Orpington (16) 1. in flowerbuds of *Lonicera xylosteum* late viii.84 – PAS.

PYRALIDAE

- Euchromia ocella* (Haw.) – Extra records – B. F. Skinner, *Ent. Rec.* 96: 98.

- Crambus ericella* (Hb.) — Scar Close, Ribbleshead (64) 28.vi.84 — ECP-C.
- Catoptria margaritella* (D. & S.) — Dover (15) 26.vii.84 — G. H. Youden, *Ent. Rec.* 97: 27.
- Platytes alpinella* (Hb.) — Whitstable (15) 13.viii.84 — ESB.
- Eudonia vandaliella* (H.-S.) — Tintern (35) 1.vii.84 — MJS.
- Parapoynx obscuralis* (Grote) — Enfield (21) in nurseries 1984 — DJLA.
- P. diminutalis* (Snellen) — Holloway (57) 12.iv.74 — F. Harrison, det. MJS, indoors.
- Evergestis extimalis* (Scop.) — Winchester (11) 12.viii.84 — DHS.
- Sitochroa palealis* (D. & S.) — Winchester (11) 19 & 31.vii.84 — DHS.
- Eurrhpara perlucidalis* (Hb.) — Murston (15) 14.vii.84, Stodmarsh (15) 8 — 21.vii.84 — NFH; Saffron Walden (19) 18.vii.84 — AME; Friday Woods (19) 17.vii.84 — J. Young per AME; East Ham (18) 15.vii.84 — C. W. Plant, *Ent. Rec.* 96: 188.
- Anania stachydalis* (Germ.) — Berechurch Dyke (19) 8.viii.84 — J. Young per AME.
- Nascia ciliaris* (Hb.) — Saffron Walden (19) 8.vii.84 — AME.
- Nomophila nearctica* Munroe — **New to Britain** — ECP-C, *Ent. Gaz.* 35: 155f.
- (*Daraba laisalis* (Walk.) — K. F. Webb & Sir John Dacie, *Ent. Rec.* 96: 130f).
- Hypsopygia costalis* (Fabr.) — 3.xi.83 — M. N. McCrea, *Ent. Rec.* 96: 186.
- Dioryctria mutata* (Fuchs) — Saffron Walden, Good Easter, Boxted (19) 1984 — AME, Berechurch Dyke (19) 1984 — J. Young per AME.
- (*Zophodia grossulariella* (Hübner) — Chestfield (15) 30.iv.83 — J. Roche, *Ent. Rec.* 96: 177) = *convolutella* auctt.
- Ancylosis oblitella* (Zell.) — Wytham Woods (23) 19 & 20.viii.84 — PHS.
- (*Euzophera bigella* (Zell.) — Saffron Walden (19) — AME, *Ent. Gaz.* 35: 154).
- Ephestia parasitella* (Staud.) — South Stifford & Grays (18) — DJLA; Faringdon (22) 14.ix.84 — MFVC.
- Plodia interpunctella* (Hb.) — Perrancombe (1) — FHNS.
- Homoeosoma sinuella* (Fabr.) — East Blean (15) 19.vii.84 — ESB; Edwinstowe (56) 12.vii.83 — MJS.

PTEROPHORIDAE

- Crombruggia distans* (Zell.) — Lakenheath (26) over 50, 14.viii.84 — MJS.
- Buckleria paludum* (Zell.) — Bicton Common (3) 28.vii.84 — RJH.
- Platyptilia calodactyla* (D. & S.) — Halstead (19) vii.84 — Rothamsted Research Station per AME. Not near *Solidago*.
- P. isodactylus* (Zell.) — Pendover (1) 16 & 17.v.84 — FHNS.

- Stenoptilia saxifragae* Fletcher – Threshfield (64) 27.vi.84 – ECP-C; Knaresborough (64) 1983 – J. B. Jobe, *Ent. Gaz.* **35**: 256. Paisley (76) 27.viii.84 – J. E. Morgan, *Ent. Rec.* **97**: 96, New to Scotland.
- Leioptilus carphodactyla* (Hb.) – St. Mary's Bay, Brixham (3) ex 1. on *Inula conyza*, three 23 – 27.viii.84 – RJH.

Corrections to the Review for 1983 (*Ent. Rec.* **96 245-258)**

GRACILLARIIDAE

Phyllonorycter staintoniella (Nic.) was not recorded from St. Agnes, but nr. Perranporth.

GELECHIIDAE

Scrobipalpula sp., now identified as *tussilaginis* (Hein.) was not recorded from Dorset (9) but from Devon as given above.

ACHERONTIA ATROPOS L. IN CAPE TOWN – In the interesting article “The Immigration of Lepidoptera to the British Isles in 1984” (*Ent. Rec.* **97**: 140 ff) it is stated on p. 142 that “pupae (of *atropos*) are known to require temperatures of 70°F or higher” to survive in Europe. I spend each English winter in Cape Town, and have been breeding *atropos* there for about 20 years.

The moths, which overwinter in the pupal stage, emerge in November and there are at least two broods during the summer months (average pupal time is six weeks) but larvae pupating during the latter part of April or early May do not produce moths until the following November. The winter night temperatures around Cape Town go as low as 39°F and are regularly in the 40-50°F range.

The larvae are extremely common in the Cape Town suburbs, yet comparatively few moths appear in my m.v. trap. Does its' known ability to escape from bee hives enable it to leave the m.v. trap at will? H. L. O'HEFFERNAN, 24 Green Park Way, Chillington, Kingsbridge, Devon TQ7 2HY.

OCCURRENCE OF NOCTUA ORBONA HUFN. (LEP.:NOCTUIDAE) IN NORTH HAMPSHIRE. – On the night of 7th September 1984 one male *Noctua orbona* was caught at m.v. light at Weyhill (SU 303461), followed by one female the next night, and another male on the 15th September 1984.

Again in 1985 the species has turned up at the same locality, with one male specimen at m.v. on 9th July. Several of the specimens were very fresh and I think represent local breeding. This is as far as I am aware the only record for V.C.12 since the early 1950's. – M. J. R. JORDAN, Stanford House, Weyhill, Andover, Hants.

THE GENUS *OBRIUM* (COL., CERAMBYCIDAE)
IN GREAT BRITAIN : A RE-APPRAISAL

By RAYMOND R. UHTHOFF-KAUFMANN*

Three species of *Obrium* are recorded from central Europe (Freude, 1966), of which the third, *Obrium bicolor* Kraatz, does not occur in this country, being confined to the southern parts of the Continent, Lower Austria and Czechoslovakia. The remaining two species, *Obrium cantharinum* L. and *Obrium brunneum* F., have been found with very few exceptions in areas limited either to what are nowadays the suburbs of northern Outer London, in the case of *O. cantharinum*, or to a few counties south of the Thames in that of *O. brunneum*.

Excluding Broxbourne, Herts., (Davis, 1833), which lies almost on the borders of the adjacent county of Essex, some 20 kilometres from, and on the perimeter of a circle having Wanstead as its centre; Great Coggleshall, well to the north-east of the latter county; a Kentish locality, *teste* Mr. A. A. Allen, where it was apparently found in some numbers by the late Professor Theobald; East Sussex, five repetitive records (Stephens, 1831, 1839; Janson, 1863; Fowler, 1890, 1905); and a solitary specimen from Devonshire (Perkins, 1929), *O. cantharinum* has only been taken in a fairly circumscribed region north of the Thames. That area embraces such famous collecting grounds as the Epping and Hainault Forests, besides some tracts of ancient woods, formerly the parklands of private estates: of these, for example, Wanstead Park is one and Dagnam Priory another. It is from the Essex localities, Wanstead House in particular, that numbers of *O. cantharinum* were once found in some quantity — and, it is suspected, not a few of these specimens, imagines and bred-out larvae, later turned up in the stock of entomological suppliers, to be sold to Coleopterists interested in the acquisition of what is one of our rarest Longicorns: so rare indeed, that it has not recurred in this country for something like sixty years.

Assuming that our oldest records of *O. cantharinum* (Curtis, 1825; Stephens, 1831; Davis, 1833) are correctly attributed to this species and not confounded with *O. brunneum* — an easily perpetrated mis-identification — for the latter was unrecorded in Great Britain until the 1930s, witness one specimen in the E. C. Bedwell collection, Castle Museum, Norwich, standing under the label of *O. cantharinum*, placed alongside a genuine example, *sine* data, of the latter; it is in fact our other species, *O. brunneum*, captured by Cox near Pulborough (Harwood and Cox, 1939), the details of which have been kindly confirmed by Dr. A. G. Irwin of the

*Bedfords Cottage, Pharisee Green, Dunmow, Essex, CM6 1JN.

Castle Museum *in litt.*: this requires the deletion of West Sussex from the distributional lists (Kaufmann, 1948).

There is evidence to suggest that some dubiety exists over the correct determination of the two British species; *O. cantharinum* is regarded as a very scarce European beetle, associated with deciduous growths (which include presumably fruit trees, such as the apple), *Rosa canina* and willows; *O. brunneum*, on the other hand, is given as the commonest of the three beetles, exclusive to coniferous trees, especially pines and firs (Freude, 1966).

Although *O. cantharinum* has been so very infrequently found in this country ["England, South of Herts.; very rare;" (Joy, 1932)], there is the possibility that it may still occur in one or other of the old copses and woods containing broad-leaved and wild fruit trees north of the London area; it should certainly not be written off as extinct; there are parallel instances, such as *Strangalia revestita* L., once regarded as a doubtfully indigenous insect (Kaufmann, 19462); and the highly localised *Molorchus umbellatarum* Schreber *vis-à-vis* *M. minor* L. (Kaufmann, 1947). In the state of our present knowledge *O. cantharinum* is so scarce that it is, perhaps like *Judolia sexmaculata* L. was, successfully eluding the collector.

Earlier evidence suggests — if it is not extinct — that *O. cantharinum* may yet occur in very restricted places in Essex. It is felt that the singleton from Bovey Tracy sent to and correctly validated by T. H. Edmonds (Perkins, 1929) is exceptional and insufficient a guide to its turning up again so far westwards, whereas *O. brunneum* is slowly extending its limits through our southern counties (Kaufmann, 1947).

There is a wide diversity in the specific descriptions given in the texts consulted (Curtis, 1825) *via* (Fowler, 1890) to the later 20th century authors (Joy, 1932; Duffy, 1952) for *O. cantharinum*, and particularly the more recent works (Freude, 1966; Harde, 1984) for *O. brunneum*. The two species are referred to (Linssen, 1959), but only *O. cantharinum* is described and figured. E. W. Janson, 1863, *British Beetles*, characterises and delineates *O. cantharinum*: plate XXVII, figure 240, drawn by J. Curtis, is unquestionably that species.

O. cantharinum and *O. brunneum* must be seen side-by-side so as to make a correct determination: it is not the good fortune of every private collection that contains either insect, let alone exemplars of both.

There is a useful little dichotomous table (Harwood and Cox, 1936) separating the two species, but the feature which really distinguishes *cantharinum* from *brunneum* — size and colour are unreliable characters — lies in the breadth of the space between the lower half of the reniform eyes as seen from above; the distinction is clearly shown in the figures accompanying Freude's 1966 text. Harwood and Cox use a different eye-gauge in their tabulation; this could still lead to some confusion.

What has been implied in the paragraph *supra* is summarised in a fresh table of comparison based upon descriptions given by nine different authors, covering the early 19th century to 1984. The summary is as follows:—

<i>Obrium cantharinum</i> L.		<i>Obrium brunneum</i> F.	
<i>Eyes:</i>	Black. Space between eyes smaller than vertical eye-length.	: Black. Space between eyes as broad as, or broader in ♀ than vertical eye-length.	
<i>Colour:</i>	Orange-red, terra cotta or dark brown.	: Yellow-brown to dark brown.	
<i>Legs & Antennae:</i>	rusty-brown to blackish; (♂, legs black).	: Lighter brown.	
<i>Thorax:</i>	Disc shinier, lightly punctured.	: Disc dull, distinctly punctured.	
<i>Elytra:</i>	Clearly and thickly, if irregularly punctured; more so than the thorax.	: Heavily and more regularly punctured than the thorax.	
<i>Length:</i>	5 — 11 mm. Mean length: 7.96 mm. ♀ larger than ♂. Generally larger than <i>O. brunneum</i> .	: 4 — 7 mm. Mean length: 5.37 mm. : Generally smaller than <i>O. cantharinum</i> .	
<i>Habitat:</i>	Deciduous trees.	: Coniferous trees.	

O. cantharinum is a very rare insect which was formerly common in one or two places; *O. brunneum* is a local beetle of which a few rather than multiple examples have been taken at any one time.

"... this pretty species . . ." (Stephens, 1831); "A very graceful and pretty species . . ." (Fowler, 1890): these two remarks, the one echoing the other, refer to *O. cantharinum*; they cannot in all truth be said of *O. brunneum*, which, apart from its long antennae, is a duller-looking Longicorn resembling superficially, say, *Gracilia minuta* F., in colour and appearance. Nevertheless, can it be that some if not all the specimens collected south of the Thames (Stephens, 1831, 1839; Fowler, 1890, 1905) were thought to be *O. cantharinum*, *O. brunneum* not having been 'discovered' until this

century (Harwood and Cox, 1936)? Mr. Allen in a letter expresses the view that this would have been a natural enough error. It does not explain, however, why an example of *brunneum* (taken by Cox) should have been placed, presumably by Bedwell himself, alongside a genuine *cantharinum* in the same collection and under the same label of *Obrium cantharinum*. There is an important proviso: quite a number of Bedwell's specimens have been re-mounted in recent years and "arranged in cabinets". [See Darby, M., *A biographical Dictionary of British Coleopterists*: page 43, (Cyclostyled Sheets, n.d., ca. 1984.)]. Such a re-arrangement may have led, understandably enough in the circumstances, to an error in the placement of Cox's *brunneum* specimen, juxtaposed to the Bedwell example of the real *O. cantharinum*. The mistake is further compounded by the presence in Bedwell's collection of two specimens taken by Cox, conspecific with *brunneum*, and correctly labelled as such.

Details about the distribution of our two *Obrium* species were published nearly forty years ago (Kaufmann, 1947, 1948); since these may not readily come to hand they are repeated here, together with the somewhat meagre fresh data that have since been garnered.

It remains to add a word about habitat: *O. cantharinum* has been recorded from crab apple trees, aspen and poplar; it may be associated with either oak or birch — this seems a little unclear (Perkins, 1929). There are no British data listing it from rose or willow trees. As with *O. bicolor*, it has not been found on conifers of any sort.

O. brunneum, on the other hand, inhabits the twigs and dead branches of pine, various firs, spruce and the (deciduous) larch (Saunders, 1939; Kaufmann, 1947; Allen, 1955; Harde, 1984). It may also be swept from Umbellifers and flowering hawthorn, particularly if these are growing near the evergreens mentioned (Harwood and Cox, 1936; Kaufmann, 1947; Harde, 1984).

Months of capture are usually June — July for *Obrium cantharinum* and May — August for *O. brunneum*.

The latter species is at its commonest in the afforested mountain areas of central Europe (Harde, 1984); that hardly applies to this country.

***Obrium cantharinum* L.**

"In the Cabinets of Mr. Sparshall and the Author." (Curtis, 1825). Curtis (*op. cit.*) adds that J. Sparshall informed him "that a male and female of our insect were taken by Mr. Henry Doubleday in a garden . . .", *infra* North Essex. The Curtis collection is now in the National Museum, Melbourne, Australia. There are three specimens, all without data labels, in the T. F. Stephens collection, British Museum (Natural History) — (BMNH). There are several data-less examples in BMNH, such as one collected by Weaver, purchased

in Rannoch; two *in coll.* Sharp, bought from Desvignes; one, taken by Dr. J. A. Power *in coll.* T. Wood; one *in coll.* Power, *ex. coll.* Pascoe; and half-a-dozen specimens, all unprovenanced.

EAST and/or WEST KENT (?): Prior to or shortly after the Great War 'freely in a Kentish orchard' according to information supplied by Professor Theobald to the late Dr. A. M. Massee (Mr. Allen *in litt.*); East Kent is only quoted briefly (Kaufmann, 1948), based on a detail given by Dr. Massee.

EAST SUSSEX: Near Brighton, taken by Mr. Raddon (Stephens, 1831, 1839; Janson, 1863; Fowler, 1890, 1905; Kaufmann, 1947, 1948). Hastings (F. W. Hope), 1Sp. Hope Dept. Ent.

HERTFORDSHIRE: "... Several pairs of this extremely rare insect have been recently taken at Broxbourne, Herts, by Mr. Bond, a diligent collector. Having met with one or two flying in an outhouse, he was induced to examine the building, when he discovered, from some holes in the rafters, that they were, in all probability, bred in the timber. On further examination, he found that the rafters were made either of the common poplar or the aspen, and, as is frequently the case in country buildings, had been used without stripping off the bark. On removing the bark, he procured several more of the perfect insect and one larva. I have a piece of the bark which shows the path of the larva and the place of exit of the imago. The outhouse has been erected about eighteen months, and the timber had been purchased from the park of J. Bosanquet, Esq." (Davis, 1833). The above record is reproduced in full as the first volume of the periodical in which it appeared is a scarce book-collector's item. Broxbourne (Stephens, 1839; Janson, 1863; Fowler, 1890; Elliman, 1902; Joy, 1932; Kaufmann, 1947, 1948). *A Coleopterist's Handbook*, 1975, 2nd ed., revised by Cooter, J. and Cribb, P. W., states on page 93 that *Obrium cantharinum* occurs in *Populus*, "in wood and under bark of aspen". This note on the pabulum is no doubt taken from the earlier authors' references.

NORTH ESSEX: Great Coggleshall, a ♂ and a ♀ taken by H. Double-day in a garden, 15.VII.1823, off apple tree leaves; another ♂ "close to the same tree", 10.VIII.1824, on a nearby plant (Curtis, 1825; Kaufmann, 1947, 1948). Both sexes, resting on a twig of flowering *Pyrus malus* (*Malus sylvestris*) are illustrated in Curtis.

SOUTH DEVON: Bovey Tracy, a singleton, summer 1929, emerged from a decayed birch stump picked up in a nearby lane and taken home in 1928 (Perkins, 1929), now *in coll.* BMNH.

SOUTH ESSEX: a ♀, VII, 1824, found by Blunt on aspen bark near Wanstead House. (Curtis, 1825; Stephens, 1831, 1839; Fowler, 1890; Harwood, 1903; Kaufmann, 1947, 1948); Wanstead, one, bred from bark, 1860 (Power) *in coll.* G. C. Champion; five examples from bark, VI.1861 (Power); one specimen "collected for 3rd year from aspen bark" (Power); six beetles collected by E. H. Robertson. All these specimens are in the BMNH collections (Fowler, 1890; Donisthorpe, 1898; Harwood, 1903; Walker, 1932; Kaufmann, 1947, 1948); a ♂ from the same locality, caught by E. H. Robertson, *ex. coll.* W. Janson (Kaufmann, 1946¹), now *in coll.* Uththoff-Kaufmann, Manchester University Museum; Mr. Allen also has a Wanstead *cantharinum* from the same source, similar data; Leytonstone, no details (Stephens, 1839; Fowler, 1890; Harwood, 1903); near Epping, taken by Doubleday, "two of them on an apple-tree. . . and a third by . . . Mr. Blunt." (Stephens, 1831, 1839; Fowler, 1890; Harwood, 1903). It is suggested that the Stephensian records — later repeated — are mistaken and that they really refer to Curtis' original ones from north Essex. Epping, Leytonstone and Wanstead all lie close to what remains of Epping Forest which, last century, must have spread over a much wider region.

WEST SUSSEX: The Pulborough record is erroneous (Kaufmann, 1947, 1948) and should be expunged.

***Obrium brunneum* F.**

DORSET: Wimborne, a single beetle beaten from hawthorn flowers by P. Harwood, 27.V.1936 (Harwood and Cox, 1936; Kaufmann, 1946², 1948); some further examples in August, 1939, close to the same vicinity (Harwood and Cox, 1939); Witchampton, two specimens captured by Dr. A. M. Masee in June, 1936 (Kaufmann, 1946²); 11.VI.1939, captor Masee, *in coll.* BMNH; also in this locality, *ca.* 1951-52, found by P. Harwood; Badbury Rings, same period and collector.

EAST KENT: Ham Street Woods, singly off spruce, 15.VI.1963 and 11.VI.1964 (A.A.Allan), first discovered there by Dr. Masee; 11.VI.1963 (Masee) *in coll.* BMNH.

EAST SUSSEX: Laughton, beaten off oak growing near Scots firs, 1.VII.1939, one example (Saunders, 1939; Harwood and Cox, 1946; Kaufmann, 1947, 1948).

SOUTH HANTS.: New Forest, a pair on a pine log, July or August, 1954, found by A. M. Robertson (Allen, 1955); a singleton, captor D. Appleton, 1974.

SURREY: Dunsfold, taken by Professor J. A. Owen in June, 1982, by beating the dead lower branches of spruce. This is a very modern record confirming the continuing spread through the southern counties of the species.

WEST SUSSEX: Near Storrington (=Parham Park), one swept in the neighbourhood of pines, 1.VI.1936, by L. G. Cox (Harwood and Cox, 1936; Kaufmann, 1946², 1947, 1948); Parham Park, on May blossom, 5.VI.1951 (Cox), A. M. Massee collection *in coll.* BMNH.; Pulborough (=Parham Park), in small numbers close to the original locality (Harwood and Cox, 1939), including a ♂, dated 1.VI.1939, found by Cox, now *in coll.* Bedwell, Norwich; two further specimens captured by Cox in Parham Park, 5.VI.1939, also in the Bedwell collection; several taken from the Park by Cox on July 1st, 1939 (Saunders, 1939).

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DEILEPHILA ELPENOR L. (ELEPHANT HAWK-MOTH) IN S. DEVON - further to B. K. West's article on *elpenor* (*Ent. Rec.* 97: 113-117), my records for this species go back about 20 years. It is the commonest hawk-moth in my m.v. trap, followed by *Sphinx ligustri* and *Laothoe populi* in about equal numbers. Warm weather in late May sometimes produces single specimens, but June and July are best, with none being recorded after the first week in August. During July 1983, 85 moths were recorded, with 13 the best catch on one night.

The larvae are commonly found on fuchsia (*Fuchsia magellanica*) and the moths like honeysuckle. A few years ago, on 31st May I obtained a few eggs from a dying moth, accidentally killed by insecticide. Two hatched on the same day and throughout their lives had identical instar periods; both pupated on the same day in the same container. One emerged in September, the other the following June. H. K. O'HEFFERNAN, 24 Green Park Way, Chillington, Kingsbridge, Devon TQ7 2HY.

THE IMMIGRATION OF LEPIDOPTERA TO THE BRITISH ISLES IN 1984

By R. F. BRETHERTON* and J. M. CHALMERS-HUNT**

(concluded from p. 185)

AGRIUS CONVULVULI L. (imagines 29, larvae c.30, pupae 5). BERKS. Shrivenham, 19.8, almost full grown larva (S. Nash, *Ent. Gaz.* 36: 37). DORSET Portland B. O., Larva photographed 12.9. ESSEX S. Bradwell-on-Sea, imagines 22.7, 25.7, 30.7 (SD), 29.7 (AJD). HANTS S. Hayling Island, imago at buddleia 7.7 (JMW). HANTS N. Oakley, imago outside window 22.9 (AHD). KENT E. Greatstone, 19.10, dead larva (TWH). KENT W. East Malling, 3.9, larva on lawn, pupated next day (MAE, *Ent. Rec.* 96:288); Dartford, 30.9, male imago (BKW). Lincs N. Marsh Chapel, 21.7, larva (JD); South Thoresby, imago 9.8, Alford, mid 9, full grown larva (REMP). NORFOLK E. Hickling, imagines 29.7, male, 30.7, female, both worm (TNDP). SOMERSET N. Western-sub-Mendip, larvae 11.9, 16.9 found pupating, 28.9, pupae 4.10, two, 13.10, two (NWL, *Ent. Rec.* 97: 26-27). SURREY Leigh, 23.7, worm imago (RF). SUSSEX E. Imagines: Rye, mid June, at flowers (P. Baylis); Camber, 18.6 (CRP); Ringmer, 9.8 (A. Batten); Ninfield, 25.8 (MP); Lullington Heath, 16.9 (MP); Lewes, 3.10 (P. Newnham); larvae: Plumpton, 28.9 (B. Fordham); Ringmer, 30.9 (B. Edgar); Rye, 28.9 full grown, green form (P. Baylis). SUSSEX W. Imagines: West Dean, 25.7 (C. Robinson); Pagham, 5.8 (R. Lord); Walberton (J. Radford); Petworth (S. Church). WARWICKS. Pailton, 26.7, female imago (Dr. Greenwood). WESTMORLAND Beetham, 12.9 (JB). WORCS. Pupae, Little Comberton, 29.9, 4.10, imago emerged 26.11 (C. Grove). YORKS. (V.C.61 and V.C.62). No imagines, but nine larvae positively identified and another eight or ten reported (PQW): Brompton-by-Sawdon, 11.9, two full grown (C. I. Massey); Ganton, c.19.9 (M. Robinson); Flixton, 26.9 two, 29.9, and c.six earlier (several recorders); Burton Fleming, 27.9, one diseased in garden and a few earlier (T. A. Potter); Seamar, 1.10, in school field (J. Childs). GLAMORGAN Rhosseli, imagines c.12.6, 2.9 very worm (BJMN). GUERNSEY 2.9, imago; late 9, four larvae, full grown (TNDP).

ACHERONTIA ATROPOS L. (imagines 9, larvae c.119, pupae 11). BERKS. Shrivenham, larva 18.9 (S. Nash, *Ent. Gaz.* 36: 77). DORSET Cheselbourne, 16.8, up to three imagines Dr. J. Norman (per NRW); Church Knowle, 18.9, six larvae (NRW). GLOS. N. Lechlade, 26.9, full grown larva on woody nightshade (*Solanum dulcamara*), 19.10, three, 21.10, (R. Singleton, E. W. Classey,

*Folly Hill, Birtley Green, Bramley, Guildford, Surrey GU5 0LE.

**1 Hardcourts Close, West Wickham, Kent BR4 9LG.

Ent. Gaz. 36: 78, 30). HANTS, N. Chilbolton, c.20.9, two larvae. HANTS. S. Larvae: Timsbury, 12.9 (DHS); Soberton, 18.9, full grown (JRL, *Ent. Gaz.* 36: 54). HUNTS. Wiston, 12.9, two full grown larvae (Mrs. M. S. L. Simpson, *Bull. amat. Ent. Soc.* 44: 25). HEREFORD S. Putley, 20.8, imago; Kingstone, 17.9, full grown on forsythia, imago emerged 21.12 (MWH). KENT E. Stone Street, Canterbury, 12.8, dead on road, (H. Harris). Larvae: Kingsnorth, 27.7, three on potato patch (TWH); Aylesford, 29.8, eight (MRE, *Ent. Rec.* 96: 288); Biddenden, 11.9, one on clematis, soon died (Miss D. Dunstan); Nonington, 21.9, brown form, 18.10 (M. Gambrell); Maidstone, five on potato, early 10 (BKW); Selling, 17.10 (S. Coulton); Preston near Wingham, 30.9, 20.10 (M. Kemp). Pupae: Snargate, 8.10 (Mrs. Wheal); Faversham, 16.10 (Lyons). KENT. W. Larvae: Farnborough, 30.7, male emerged (PAS); West Wickham, 11.9, two full grown (R. F. Birchenough); Higham, mid 9, (Mrs. Bengly); between Shorne and Higham, late 9, three (I. Ferguson); Longfield, near Gravesend, 12.10 (Mrs. Crawley). Pupa: Isle of Grain (A. Smith). LANCS. N. Lancaster, 16.8, full grown larva (PJB). OXON. Larvae: Overmorton, September, two: Oxford District, one (PHS). LINCS. N. Somercotes, two larvae injured in potato field (per REMP). SOMERSET N. Westbury-sub-Mendip, larvae: 3/8.9, c.25 on potato patches, all pupated by 11.9; 9.9., three, 11.9, four, 16.9, four half grown; 25/30.10; c.12; pupae: 9.9., 18.9, 4.10 two, 13.10 two (NWL, *Ent. Rec.* 97: 26-27); Hinton Charterhouse, 18.9, two full grown larvae (BWM, *Ent. Rec.* 97: 36). SURREY Larvae: Haslemere, 26.8 (JSCT); Ripley, 8.9, full grown (AJH). SUSSEX E. Larvae: Plumpton, 28.9, full grown (B. Fordham); Lewes, c.1.10, full grown (L. Cousens); Hailsham, early 10 ("Living World", per CRP). SUSSEX W. Imago: Goring, 21.7, caught by day on beach (DD). WARWICKS. Loxley, 10.10, one larva and two pupae by potato pickers, 22.10, full grown larva on jasmine (per DCGB). WORCS. Pershore, 19.9, on potato (P. F. Whitehead, *Ent. Gaz.* 36: 77); Drakes Broughton, mid. September, full grown larva; Little Comberton, 20.9, imago emerged 4.12 (per JEG). YORKS (v.c.62) Imagines: Scarborough, 15.8, found on wall of beach chalet; 18.9, one on fishing boat c.80 miles north east of Scarborough (per PQW). CAITHNESS Huna, 28.9, "large moth stung to death by bees", identified from description and photo in local newspaper (S. Swanson). GUERNSEY mid September, four full grown larvae (TNDP). ALDERNEY 20.9, larva (TNDP).

DAPHNIS NERII L. SUSSEX W. Worthing, 25.6, found damaged and dead, passed to Miss B. Stonier for identification (*Worthing Naturalists' Report*, 1983/1984: 37).

LYMANTRIA DISPAR L. GUERNSEY males at light 19.8, 24.8, 13.9. (TNDP).

*EILEMA GRISEOLA Hb. CO. CORK Fountainstown, 23.8, female. First confirmed Irish record (AAM). Probable immigrant.

*EILEMA COMPLANA L. WESTMORLAND Beetham, 1.8. Possibly immigrant, see *L. quadra*.

*LITHOSIA QUADRA L. WESTMORLAND Beetham, 28.7, three, 29.7, two, 31.7, nine, 1.8. (JB, *Ent. Rec.*, 97:13). The dates suggest immigration of the three last footmen moths; otherwise a massive internal migration from distant areas of residence. It was also reported from Trebrowbridge, East Cornwall, 26.7, 29.7; from West Sussex, West Dean, 6.8 (C. Robinson per CRP); and Wychwood, Oxon, no date (CWDG).

*EUPLAGIA QUADRIPUNCTARIA Poda. CORNWALL E. Sheviock, 22.8, 25.8, at light (SCM); Mt. Edgecombe, 28.8, in garden (per SCM). DORSET Portland B. O., 18.8, 21.8. SUSSEX E. Playden, 7.8, at light (MWFT). Possibly immigrants, if not spread from South Devon.

*CLOSTERA ANACHORETA D. & S. KENT E. Dungeness, 2.6 (CWP, *Ent. Rec.*, 96:211).

AGROTIS PUTA Hb. CO. CORK. Fountainstown, 23.8, female. First confirmed Irish record. (AAM). Probable immigrant.

AGROTIS CRASSA Hb. CO. CORK. Fountainstown, 20.8, male (AAM). First Irish record; no confirmed record for Britain, but resident in Channel Islands.

*EUROIS OCCULTA L. (19) HANTS S. Winchester, 1.8, pale form (DHS). HERTS. Much Hadham, 14.8, very worn female (DEW). Lincs N. Gibraltar Point, 11.8, pale form (MJS), 27.8 (REMP); South Thoresby, 9.8, 11.8, 26.8, 27.8, 29.8 (REMP). NORFOLK E. West Somerton, 14.8, two (BG). YORKS. (V.C. 61) Rudston, 24.7, female, 27.8, male (A. S. Ezard); Muston, 27.8, male, 28.8, female (PQW). YORKS. (V.C. 62) Wykeham Forest, between 20.8 and 2.9, female (PQW). ORKNEY Sterness, 3.8 (E. R. Meek); Scorradaile, 17.8, male, worn (RIL).

*DISCESTRA TRIFOLII Hufn. CO. CORK Fountainstown, 20.8 (AAM). Probably immigrant.

MYTHIMNA ALBIPUNCTA D. & S. (17) CORNWALL W. Lizard, 20.8, two at sugar (RJR), 23.8, three (NMH); Kynance, 25.8, five (NMH). CORNWALL E. Sheviock, 20.8; Trebrowbridge, 21.8 (AS). DORSET Lodmoor, 26.8 (MC). ESSEX S. Bradwell-on-Sea, 1.11 (AJD). ESSEX N. Little Oakley, 22.8 (AME). SUSSEX E. Peacehaven, 28.8 (CRP). SUSSEX W. Walberton, 1.11 (J. Radford).

MYTHIMNA VITELLINA Hb. (6) CORNWALL E. Trebrowbridge, 21.8 (AS). ESSEX S. Bradwell-on-Sea, 8.10 (AJD). SURREY Buckland, 10.11 (CH). SUSSEX W. Walberton, 9.11 (J. Radford per CRP); Petworth, 11.11, two (SC).

MYTHIMNA UNIPUNCTA Haw. (14) CORNWALL E. Trebrowbridge, 1.11 (AS). ESSEX S. Bradwell-on-Sea, 27.10, 1.11, 6.12, 24.12 (AJD, SD). HANTS S. Hayling Island, 21.10, 21.12 (JMW). SUSSEX E. Peacehaven, 5.12 (CRP). SUSSEX W. Walberton,

23.10, 1.11, 28.11, 3.12 (J. Radford per CRP), Petworth, 12.11 (SC). ARGYLL Barcaldine, 14.10 (JCAC).

MYTHIMNA LOREYI Dup. DORSET Charmouth, 29.8 (RJR).

TRACHEA ATRIPLICIS L. GUERNSEY St. Saviour's 28.7 (R. Austen per TNDP). First Channel Islands record.

*ENARGIA PALEACEA Esp. KENT E. Orlestone Forest, 31.7 (J. Fenn, *Ent. Rec.* 96: 215). Probably immigrant.

*AMPHIPOEA Species not yet determined. YORKS. (V.C.61) Rudston, 30.8/5.9, with night peaks in trap 1.9 (17) and another of eleven (A. S. Ezard per PQW); Muston, 28.9, three, 30.8, three, 31.8, thirteen (PQW). Winds on these dates were north west; this seems to have been an internal migration, possibly from the North Yorkshire moors.

SPODOPTERA EXIGUA Hb. BERKS. Uffington, 3.8 (E. W. Classey, *Ent. Gaz.* 35: 256). CORNWALL W. Lizard, 14.9 (DCGB); Coverack, 16.9 (BRB). CORNWALL E. Sheviok, 24.8 (SCM); Trebrownebridge, 24.8 (AS). ESSEX S. Bradwell-on-Sea, 9.7, 21.7, 31.7, two, 7.8, 3.9 (SD). HANTS S. Ashurst, 1.8 (S. W. Pooles); Hayling Island, 25.7, 8.8 (JMW). SUSSEX E. Peacehaven, 30.7 (CPR), Ninfield, 30.7 (MP). WARWICKS. Charlecote, 6.8 (AG), 13.9 (DCGB). WILTS. S. Trowbridge, Ashton Common, 12.8 (EGS). GUERNSEY, 25.7, 27.8 (TNDP).

*HELIOTHIS MARITIMA Graslin. CORNWALL S. Porthleven, 23.7, rather worn (N. Gill).

HELIOTHIS PELTIGERA D. & S. (3) CORNWALL E. Sheviok, 11.9 (SCM). ESSEX N. Little Leighs, 19.7 (AME). NORFOLK W. Downham Market, 20.8 (JKMH).

TRICHOPLUSIA NI Hb. ESSEX S. Bradwell-on-Sea, 12.8, two (AJD).

*TRISATELES EMORTUALIS D. & S. KENT E. Orlestone Forest, 31.7, male (JLF, *Ent. Rec.* 96: 215). GUERNSEY Le Chene, 22.7. First island record, probably immigrant (TNDP).

Annexe II

Late Records

DIASEMIOPSIS RAMBURIALIS Dup. ESSEX S. Matching, 13.7 (RF).

RHODOMETRA SACRARIA L. DEVON S. Axminster, 4.8 (E. C. Pelham-Clinton). KENT W. East Malling, 16.9 (D. A. Chambers). SOMERSET N. Lympsham, 10.9, 11.9, four, 13.9, two (E. C. Pelham-Clinton). YORKS (v.c. 63), Firbeck, 2.9; East Dean, 27.9 (per S. M. Jackson). YORKS (v.c.65), Sharrow Grange, Ripon, 7.9., 16.9 (per S. M. Jackson).

AGRIUS CONVULVULI L. KENT E. Dymchurch, 10.8 (J. Owen).

*EUROIS OCCULTA L. SUSSEX E. West Dean, 13.8 (C. Robinson per CRP).

MYTHIMNA UNIPUNCTA Haw. GUERNSEY 17.10 (TNDP), 1.12 (P. Costen per TNDP).

SPODOPTERA EXIGUA Hbn. DEVON S. Axminster, 4.8. (E. C. Pelham-Clinton). KENT W. East Malling, 6.8. (D. A. Chambers).

HELICOVERPA ARMIGERA Hbn. DORSET Swanage, 30.9 (PJB, *ibid.*).

HELIOTHIS PELTIGERA D. & S. CORNWALL E. Lostwithiel, 25.6, two (FHNS).

Additional records have also been received of the following commoner immigrant species: *V. atalanta*: Hants. S., Woodfidley, 21.1, two seen flying; Yorks (v.c. 61), few after slow start, but frequent September and October: first Knaresborough 20.4, last 23.12. *C. cardui*: Yorks (v.c.61), Filey, 20.9; Guernsey, 16.8; Herm, 18.8. *C. crocea*: Cornwall E. & W., two; Devon S., one; Kent W., one; Yorks (v.c. 62), eight. *M. stellatarum*: Yorks (v.c.61), two; Cornwall W., two and larvae 25.8; Carmarthens, Ammanford 24 and 25.7. *A. ipsilon*: Axminster, 10.6/28.10, only few; Cornwall W., Coverack, 17.9, many; Yorks (v.c.63), two.

Notes and Observations

CHORISOPS NAGATOMII ROCK. (DIPTERA: STRATIOMYIDAE) : FURTHER RECORDS FROM THE METROPOLIS — The recent note by A. A. Allen on *Chorisops nagatomii* Rock. from south-east London, (*Ent. Rec.* 97: 33), prompts me to place on record two captures made during the course of field work by staff at this Museum. Whilst not pre-dating Mr. Allen's first record for the metropolitan area, they nevertheless indicate a spread of this species into the region. The data are as follows:—

Hither Green N. R., Lewisham, [West Kent] : 5.ix.1984 (P. Kirby); Wanstead Park, [South Essex] : Sept. 1980 (C. W. Plant).

Both specimens are preserved in the general reference collections at this Museum. — COLIN W. PLANT, Passmore Edwards Museum, Romford Road, Stratford, London, E15 4LZ.

LATE CAPTURE OF CHLOROCYSTIS CHLOERATA. MAB. (SLOE PUG) — A female of this species was captured in one of the Rothamsted Insect Survey light traps which operate on the station's grounds in Harpenden, Hertfordshire (Site number 34, Allotments, O.S. ref TL 134 134) on the night of 29/30.vii.1984. The identity was confirmed by examination of the genitalia. This species usually flies in May and early June. ADRIAN M. RILEY, Entomology Dept., Rothamsted Experimental Station, Harpenden, Herts.

PAROCYSTOLA ACROXANTHA MEYRICK (LEP.: OECOPHORIDAE) AT CAMBORNE IN CORNWALL — A single male of this species was recorded at the Rothamsted Insect Survey light trap at Rosewarne Experimental Horticultural Station, Camborne, Cornwall, (Site No. 114, O.S. ref. SW 642 411) on the night of 2/3.vi.1985 and was kindly identified by J. M. Chalmers-Hunt.

This species is probably an accidental import from Australia or New Zealand and has only previously been recorded from Devon (Jacobs, S. N. A. *Illustrated papers on the British Microlepidoptera* pp 117-118. BENHS 1978) and Somerset (Youden, G. H. *Ent. Rec.* 95: 103). This capture therefore constitutes an extension of its known range and a new county record for Cornwall.

The flight period is stated to be May to September, and it is probably bivoltine (Anon. *A Field Guide to the Smaller British Lepidoptera* p. 106. BENHS 1979, and Youden *loc. cit.*). This record is one of the few first brood examples noted to date. The larva is said to feed on *Eucalyptus* though I understand that wild larvae have not yet been found in Britain. The trap operator, Mr. W. Herring, informs me that *Eucalyptus* is grown there.

Thanks are extended to Mr. J. M. Chalmers-Hunt for identifying the specimen, Mr. B. Skinner for his advice and Mr. W. Herring for his continued and much appreciated help to the Rothamstead Insect Survey in operating the trap at Rosewarne. ADRIAN M. RILEY, Rothamstead Experimental Station, Harpenden, Herts. [An interesting account of rearing this species in Britain is given by Allen, A. A. (1979) *Proc. Trans. Br. ent. nat. Hist. Soc.* 12:58 — P.A.S.].

TROX SCABER (LINNAEUS) (COL.: TROGIDAE) AT M.V. LIGHT IN ESSEX. — It may be of interest to place on record the capture of two examples of the uncommon beetle *Trox scaber* (Linnaeus) at 125 watt m.v. in my garden at East Ham, South Essex, TQ 430828, on the night of 30th June/1st July 1985. *Trox* is an uncommon genus in Britain, represented by three species, of which *T. scaber* is apparently the more widespread. As an alleged feeder in birds nests it may be reasonably expected to be quite abundant throughout its range, yet the only other Essex record available at this Records Centre is the singleton taken at Warwick Wood, Aveley, South Essex, also at 125 watt m.v., on the night of 18th July 1984, and recognised on this occasion by my friend and former colleague Paul Hyman.

It is interesting to note the similarities between the general weather pattern on the two occasions, and that on both nights the trap also attracted migratory Lepidoptera such as *Udea olivalis*, *Peridroma saucia* and *Xestia c-nigrum*. Could it be that *Trox scaber* is a migrant?! — COLIN W. PLANT, Passmore Edwards Museum, Romford Road, Stratford, London, E15 4LZ.

THE WHITE LETTER HAIRSTREAK, *STRYMONIDIA W-ALBUM* KNOCH. IN ALDERNEY, C. I.: POSSIBLY THE FIRST RECORD – My wife and I, along with Mr. D. Poole, were in Alderney from July 27th to Aug. 10th 1985 on holiday and to study the Lepidoptera and plant life. On July 28th while overlooking the valley Val du Sud I caught a glimpse of an insect which I felt could possibly be a hairstreak. I knew of no hairstreak on the island other than the green hairstreak which I had seen on a previous visit.

The Val du Sud is quite a deep (by Alderney standards) wooded valley, the trees being mainly sycamore and elm bordered by hawthorn bushes.

We returned to the same spot on July 31st hoping to get a positive sighting. Before long we were rewarded and apart from several specimens flying around the elms two *w-album* came down onto the bracken only a few feet away. One was netted and identification confirmed.

Thinking that another wooded area, Val de la Bonne Terre, would also be a likely habitat for this insect we went there on Aug. 1st. Within minutes we could see a number of *w-album* around the trees and others flying over, and settling on the bracken. Probably all the suitable sites in Alderney harbour this butterfly. One even came into the garden of our cottage in the small township of St. Anne.

I can find no previous record of this butterfly for Alderney which is surprising as it is apparently very well established, although I have to admit I failed to find it when visiting Alderney in August 1980.

I would like to thank those people on Alderney who were so very helpful and kind. For a loan of a moth trap and battery etc. and to those who allowed us to run the trap within their gardens in various parts of the island and to those who gave us free access to private land. — G. E. HIGGS, The Cottage, Willen, Milton Keynes, MK15 9AD.

Current Literature

Nordens Malere. Handbog over de danske og fennoskandiske arter af Drepanidae og Geometridae (Lepidoptera), by Peder Skou. *Danmarks Dyreliv*, 2:1-332, 358 line drawings and half-tone illustrations and 24 coloured plates. 250mm. x 175 mm., hardback. Fauna Bøger & Apollo Bøger, 1984. Obtainable from Apollo Bøger, Lundbyvej 36, DK-5700, Svendborg, Denmark. Price (including postage D.Kr.433 (about £30).

This volume on the Drepanidae and Geometridae of Denmark and Fennoscandia will be of much interest to British lepidopterists

because the fauna of these countries has much in common with that of the British Isles. The text, predominately in Danish, gives a description of the imago of each species, the flight and larval periods, distribution, habitats, foodplants etc. The black and white figures include many line drawings of genitalia and half-tones of larvae, as well as reproductions from photographs of habitats, and illustrations clearly showing the alar characters distinguishing species of similar appearance. The 988 coloured figures on the 25 plates, taken from photographs of set specimens and apparently all reproduced natural size, are among the most realistic we have seen of the moths in these groups. The relevant captions are conveniently placed opposite the coloured plates with, in addition to the name of each species figured, the essential data with every specimen shown, thus adding much to the interest and authenticity of the book. Incidentally, the following minor errors to the captions in plate 1 should be noted: fig. 24 is of *Tetheella fluctuosa*, fig. 26 is of *Tethea* or. A map of Denmark and Fennoscandia showing the provinces, is followed by a series of tables giving the distribution of each species in these provinces, as well as an indication of their recorded occurrence in the following countries: Estonia, Latvia, Lithuania, Poland, Holland, Great Britain and Ireland. — J.M.C.-H.

Atlas of Butterflies in Britain and Ireland by J. Heath, E. Pollard and J. A. Thomas. 158 pp. numerous figs. and maps. Viking 1984. £17.95.

Fifteen years' work on butterfly recording at the Biological Records Centre at Monkswood, data from the Butterfly Monitoring Scheme and original contributions from various lepidopterist have resulted in an excellent book. It is described as an Atlas and indeed the familiar 10 kilometre-square 'dot' maps form an important part of it, but the text accompanying these maps not only forms a synopsis of the ecology of each species and in many cases its history in Britain, but also contains many original observations never previously published. There is more precise information on the subject of food plants for example: The grass feeders are shown to be far more particular about the species of grass chosen in nature than they are in captivity. Other interesting facts are included on habitat preferences, former ranges and current threats to survival or stability. The text is presented in apposition to the now well-known distribution maps based on the 10 kilometre-square grid. These maps have been brought up to date, (1983), and, while in general are an excellent guide to the current range of each species, they do not always comprehensively represent the exact distribution. The very local or rare butterflies are more accurately covered than the common widespread ones.

There is some confusion with the most recent records, where a colony which is known to have ceased to exist within the last two

or three years it is represented by a circle, even though the record should still come into the category of '1970 to date'. An example of this is the map for the supposedly extinct large blue. Previous maps issued by the Biological Records Centre showed two categories only, but these have three, ie. Pre 1940 represented by asterisks, 1940 – 1969 by circles, and 1970 – 1982 by dots. Because of the rapid decline of some species in recent years, (high brown, pearl bordered and marsh fritillaries come most readily to mind), even this most recent date class does not always convey the current contraction in range. Sadly there are few corresponding success stories, and where these have occurred the maps often do not make this plain, as later records supercede earlier ones. Alongside the distribution maps, flight period charts are shown for several species. These originate from the Butterfly Monitoring Scheme (begun in 1972) and mainly show short term fluctuation in numbers and the time of appearance within given colonies. They do not necessarily represent the overall abundance of that species during that year.

Distribution maps and text have been included for all resident butterflies (past and present) and the three regular migrants, painted lady, red admiral, and clouded yellow are also included. The line drawings illustrating each butterfly species are something of a mixed bag. Some, such as the green veined white and duke of burgundy are delightful, whereas others, particularly the chequered skipper, are less satisfactory.

The book commences with an introduction describing the history of the Biological Records Centre and details of other sources used. Immediately following the main section of maps and text there is a chapter entitled 'The Pattern of Change', giving a brief history of British Butterflies and chronicling the various ecological and climatic changes they have been subjected to in historical times. It concludes with this gloomy note, 'there seems little prospect of maintaining sufficient habitats for many of our butterflies within our highly agricultural countryside, except in areas set aside for the purpose'. Even on reserves, further drastic decline of our native butterflies is envisaged without improved knowledge of their ecology. Most lepidopterists, who have studied British butterflies over the last decade, would, I think, ruefully agree with this prediction. The Atlas concludes with a list of references, a check list of butterflies and their major food plants, and a basic index. At first glance £17.95 may seem rather a steep price for this somewhat slim volume. There are no beautiful colour plates and the general presentation of the book does not do it justice. Nevertheless I found it, quite frankly, the most informative British butterfly book since Frohawk and South. Not intended in any way as an identification guide, it is important for the fresh data it contains on butterfly behaviour, ecology and distribution: it can be highly recommended to both beginner and expert. — C. J. LUCKENS.

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(Founded by J. W. TUTT on 15th April 1890)

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COMPILED BY S. N. A. JACOBS (LEPIDOPTERA)

AND A. A. ALLEN (OTHER ORDERS)

Newly described taxa (species, genera etc.) are distinguished by bold type. Taxa new to Britain or newly recognised as British are denoted by an asterisk.

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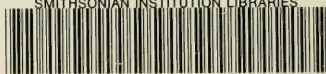






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